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LARGE SCALE RORSCHACH TECHNIQUES

A Manual for the Group Rorschach
and
Multiple Choice Test

• *Large Scale*

RORSCHACH TECHNIQUES

A Manual for the Group Rorschach
and
Multiple Choice Test

By

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LARGE SCALE RORSCHACH TECHNIQUES

A Manual for the Group Rorschach

and

Multiple Choice Test

Introduction

AN INEVITABLE difficulty confronts the writer who must deal with investigations involving a specialized technique. Shall he speak to a relatively small group whom he can assume is familiar with the procedure in question and knows the grammar of the scientific language which is spoken, or shall he aim at a far wider audience by attempting to educate them in the first half of the book to a point where they can be specialists in the second?

The consideration of problems involving the use of the Rorschach method of personality diagnosis presents just such a dilemma. It is a specialized technique which must be mastered before its results are properly understood and before modification of its original methodology can be appreciated.

In writing a manual for the *group Rorschach* we have, therefore, had to make our choice, and since there now exist several alternative sources in English (1) (2) (3) from which the would-be Rorschach worker can instruct himself on the technique proper, we have decided to assume a knowledge of such aspects of the test as are common to both the original (individual) method and its present modification (group method). In other words *we will make no attempt here to give specific instruction in the scoring of Rorschach records per se or to deal with the interpretive principles which are the essence of the method regardless of its manner of administration.*¹

We do not feel that this must constitute a warning to the effect that only the Rorschach expert need concern himself with this book. Rather it will be our aim in the final chapters to show that the group method of administration, combined with the Multiple Choice Test which has been developed, may bring at least some aspects of the Rorschach technique into fields where to date its use has not even been contemplated. For in this Multiple Choice Test we have a simple and objective procedure which will allow the psychologist, psychiatrist, educator, social worker, or probation officer, *without any Rorschach training*, to profit by the experience of Rorschach and subsequent workers. The development of such a short objective test was, of course, possible only after the analysis of group records presented in Part II of this book, and

¹ The best and most systematic presentations of the Rorschach method will be found in *The Rorschach Technique* by Bruno Klopfer and Douglas Kelley and in *Rorschach's Test* by Samuel J. Beck. (8)

after the accumulation of a large number of individual records derived from various sources, clinical and otherwise. Thus, in presenting this new test together with the norms for the group Rorschach, we hope to show that it is not only a simple and practical method in itself, but that it grew out of a detailed study and is based on statistical findings.

We have a threefold purpose then in this book. In PART I we are concerned with a brief history of the development of the group procedure and with a consideration of the uses to which it is being put at the present time (Chapter I). We have also discussed in detail the technical aspects of the administration of the test, the problem of the inquiry and the scoring of the records (Chapters II and III). While parts of this material may be found elsewhere (4), (5), it seemed advisable to include it here so that all necessary information for the use of the test could be found in one place.

In PART II we have presented an experimental investigation from which norms for the new method may be derived. We have analyzed the responses in terms of *location*, and *determinants*. (In Part IV, in order not to disrupt the continuity of our general presentation, will be found the *List of Content* which may be compared with the lists for the individual method, compiled by Beck (6) and Hertz (7).) One of our main concerns in these sections has been to study each card separately so that we now possess information about the kind of perceptual experience which each card most readily evokes. A card by card comparison of individual and group records is also included. Lists of the *popular answers* derived from this statistical study, the frequency with which *failures* occur in each of the cards, a consideration of the distribution of *anatomical answers* within the ten cards, and the like have been discussed.

The records of three hundred and forty subjects provided the material for this analysis. The total number of the responses which we dealt with was 8526. While our main interest and concern was with providing norms for the *college age group* (224 subjects), we contrasted this experimental group with three others. We examined one other "normal," unselected group of 34 male subjects (age range 26-58 years) referred to in the tables as the *adults*, and two selected groups of persons whose behavior in some form or another showed marked deviations from the normal, namely 41 patients from a sanatorium, *psychotics and psychopathic personalities* (male and female), and 41 *inmates from a large penal institution* (male). The comparison which can be made between these groups enhances the interest of the material; for in considering the graphs of the determinants and the locations, it is

possible to see what features of the cards emerge as common to all four groups on the one hand, and what features may be said to show the imprint of the characteristics of one particular group on the other.

Since the number of *college age subjects* was considerably larger than that of the other groups, we broke down this total into five sub-groups, each with different training, namely medical students, student nurses, aviation cadets in training, and male and female students in a college of arts.

We have presented the results in all cases in both graphic and tabular form, feeling that these two methods fulfill very different functions. The graphs allow for comparisons to be made at a glance between cards and between groups of subjects. They show immediately the interrelationship of the various factors and the dominance of any particular perceptual component. On the other hand the tables make for a more accurate presentation and are correct to one decimal place.

Part III is concerned with the Multiple Choice Test which was derived from the material presented in Parts I and II. Since the original preparation of this book, this test in its preliminary form has been found to be of use not only to educators and counselors as suggested above, but also to persons concerned with problems of military selection, classification and rehabilitation, as well as to workers in the industrial field. We have, therefore, added a brief report in a final section on some of the findings in these various fields which have been published or made available to us, and have included three papers devoted to various phases of the use of the test in military psychiatry by Due, Wright and Wright.

Part IV, as mentioned above, is given over entirely to the *List of Content*, which will obviously be used only for reference.

REFERENCES

1. Rorschach, Hermann. *Psychodiagnostik*. Fourth edition. Bern, Switzerland, Hans Huber, 1942, 226 pp.
2. Klopfer, Bruno and Kelley, D. M. *The Rorschach technique*. New York, World Book Co., 1942, viii+436 pp.
3. Bochner, R. and Halpern, F., *The clinical application of the Rorschach test*. New York, Grune and Stratton, 1942, x+216 pp.
4. Harrower-Erickson, M. R. and Steiner, M. E. Modification of the Rorschach method for use as a group test. *Rorschach Res. Exch.*, 1941, 5: 130-144. Also in: *J. Genet. Psychol.*, 1943, 62: 119-133.
5. Harrower-Erickson, M. R. Directions for administration of the Rorschach group test. *Rorschach Res. Exch.*, 1941, 5: 145-153. Also in *J. Genet. Psychol.*, 1943, 62: 105-117.

6. Beck, Samuel. Introduction to the Rorschach method: A manual of personality study. *Amer. Orthopsychiat. Ass. Monog.*, 1937, 1: xv+278 pp.
7. Hertz, Marguerite. *Frequency tables to be used in scoring the Rorschach ink-blot test*. Revised edition. Cleveland, Ohio, Department of Psychology, Western Reserve University, 1942, 275 pp.
8. Beck, Samuel. *Rorschach's Test*. New York. Grune and Stratton. 1944, xiii+223 pp.

PART I

SECTION I

The Development of the Group Rorschach

WITH THE outbreak of the war it became evident that Rorschach workers possessed a tool which, if properly used, could be of value in problems of classification, selection, and screening of military personnel on the one hand, and in clinical problems such as the differential diagnosis of hysteria and malingering from cerebral trauma on the other.¹

It was, however, equally clear at that time that technical barriers prevented the wide-spread use of the test, not the least of these being the amount of time required for its administration to large numbers of persons. At this point necessity proved the mother of invention and to obviate this outstanding difficulty the *group method* was devised. (2)

The essence of the *group method* is contained in the following ideas: the important features of a Rorschach record can be obtained if the subject *writes down what he sees* in the ten ink blots when these *are projected on a screen in front of him*, instead of reporting his perceptions to the examiner. In doing this he may be a member of a large group of several hundred persons who are also engaged in recording their responses in this way. Moreover, by *locating his own responses* on diagrams of the blots, and by writing additional information about his responses following their spontaneous recording, he will provide the examiner with the material on locations and determinants which is needed for accurate scoring and which is usually obtained in the inquiry period described and advocated by Klopfer (3).

We will discuss in chapter II the detailed procedure for administration of the group method, a procedure which was selected from many experimental sessions in which the variables were systematically altered. Summarized briefly, however, at this stage we may say that the procedure consists in showing *slides of the ten Rorschach cards* for *three minutes* each in the upright position. The *number of subjects* tested

¹ A recent publication (1) has shown the differentiating potentialities of the Rorschach method with regard to subdural hematoma and neurotic individuals. The authors state: "... this technic can be an excellent diagnostic aid in borderline and puzzling cases. A fairly characteristic picture is expected in the 'dull' syndrome similar to the findings in intracranial tumors by Harrower-Erickson. In differential diagnosis the anxiety and conversion neuroses are likely to give a typically neurotic performance with color shock, lack of human movement and the predominance of animal movement over human movement."

is limited only by the size of the auditorium provided each seat gives an uninterrupted and undistorted view of the screen, and that the front row is some 10 or 12 feet distant from it. *Sufficient light* comes in most cases (where the lantern is strong enough) from the slides themselves, but this can be supplemented by indirect lighting from the back of the hall if necessary. Specially *prepared booklets** with ten blank pages for recording and small diagrams of each card (at one stage hidden by a flap) for use in the inquiry period were used. *Instructions* were essentially the same as those described by Rorschach (4) and subsequent workers, except for technical details about the use of the booklets and the nature of the slides. Following the recording of responses for each of the ten slides, a second half hour period was devoted to the accurate delineation of the areas used in these responses on the small diagrams and to giving additional information concerning the answers. This procedure was found practical and effective not only with college students but with adults of below average intelligence (prison inmates with I.Q.'s from 70 to 90), high school students, and even institutionalized psychotics. The instructions naturally varied slightly with the nature of the group tested, and the more specific inquiry was reserved for groups where the level of intelligence made such a procedure productive.

Once the underlying principle of the group method is understood and once the truth of the assumption that it provides one with essentially the same information as the individual method has been demonstrated, it is clear that minor deviations in technique, in materials, in administration and scoring will matter as little here as they do when the test is given individually. Whether the blots are projected as slides as in the majority of investigations to date, or whether the cards themselves are projected by means of an epidiascope, for example, is immaterial. Whether the responses are recorded in the prepared booklet, such as we have used and recommended, or on plain paper (5), (6) with diagrams of various sizes attached is equally inconsequential. Whether the instructions are given by the examiner in person or are written out on slides and projected along with the blots, or are given from victrola records² or are mimeographed and made available to each subject independently is again unimportant provided that the method that is chosen is suitable for the group being tested. Just as the individual procedure receives a variety of treatment in the hands of its users and yet "delivers the goods" so the group method seems capable of many minor modifications provided the basic ideas are retained.

* The booklets now supplied *do not have the flap which hides the diagrams*. This proved unnecessary experimentally and complicated their production.

² Bigelow, R. B. and Lindner, R. and Chapman, K. have adopted the above methods.

The most recent development in group procedure will, perhaps prove the most practical of all. Using a new series of inkblots (devised by the authors as a parallel set) individual booklets have been prepared in which full-sized, colored and uncolored, blots are available for each subject. Thus slides are unnecessary, for each person tested has his own set of blots and records his responses on the other half of the open double page. These blots at present utilized in a military investigation will shortly, we hope, be available for general use.

What Are the Group Records Like?

Four questions very naturally come to mind when such a drastic change in a previously sacrosanct procedure as the Rorschach method has occurred. First, what are records taken under these new conditions like? What sort of protocol will the normal and the various abnormal personalities give? How does the experience of looking at slides differ from that of looking at cards? And so on. The best answer to this question undoubtedly is to take the group test oneself, to experience group conditions and make a direct comparison from "within." Then one should read through the group and individual records of some person with whom one is acquainted and compare the information that can be derived from each. For the moment, however, a comparison of the four records in Table I will provide a good introduction. These records should be compared one with another and then mentally with the records of similar types of subjects from one's own clinical experience, i.e., should be mentally compared with the *individual* records of normal persons, the organic patient, the neurotic, and the psychopath.

Of the many hundred "normal" records which could equally well have been given at this point the one quoted is chosen merely for its brevity and for the obvious use of some of the main determinants which can be seen despite the absence of scoring.

It is also of interest that the three abnormal records were correctly diagnosed by "blind analysis" from large groups when it was not known that such abnormal individuals were taking part. With one exception the subjects are all the same age.

Even at their face value without benefit of scoring it can be seen that these four records represent very different Rorschach personalities, and that each of the abnormal records presents its own striking differences from the normal. The marked perseveration will be noticed in the record of the organic; the failures on cards II and VIII characterize the record of the neurotic individual; while strange symbolism and bizarre answers pervade the record of the psychopath. Even the sentence

TABLE I
*Comparison of Responses Obtained by Group Administration of the Rorschach
 From Four Individuals Varying Widely in Personal Adjustment*

WELL ADJUSTED INDIVIDUAL		PROFOUNDLY MALADJUSTED INDIVIDUAL. RECENT SUICIDE ATTEMPT		INDIVIDUAL WITH ORGANIC CEREBRAL LESION		PSYCHOPATHIC PERSONALITY, SCHIZOID TYPE	
Age 20		Age 20		Age 40		Age 20	
Card		Card		Card		Card	
I	Face of glossy black cat like a Hallowe'en decoration.	I	Butterfly.	I	This is a black bug, also very large.	I	Possibly the brain pattern (physical) of some animal.
II	Two people talking over a small table, possibly twins, with clothing, hats, and hair styles the same. Arms folded on the table. Salt and pepper between them.	II	.....	II	This is also a large bug with black and red colors on it. Laid out flat on paper.	II	Two scotties, nose to nose, in copulation with the heat of passion flaring above them. Fire also indicates the area of orgasm.
III	Two figures, women according to their shoes, maids possibly. They are lifting some heavy object. In the middle is a red butterfly upside down. (D)	III	Head of two birds. (d)	III	This looks to be a bug with parts taken away, also black and red.	III	Two blacks working over the carcass of a shark, tossing out foeti and viscera which appear to be atavistic lungs.
IV	Face of some insect highly magnified. (D)	IV	X-ray of spine.	IV	This looks to be a black bug of some sort or other laid out flat on paper with two arms.	IV	A good representation of a vampire bat.
V	Bat with wings outstretched.	V	Bat.	V	This is a bug or butterfly laid out flat with two long legs and two long horns.	V	Pools of blood obstructing the view of disengaged human limbs.
VI	Old-fashioned warming pan for bed. The handle at the top has a fringe of fur attached. Also a fur rug and the handle of a mace.	VI	Oil well.	VI	This I would say is possibly a bug also of a different kind, black in color and large.	VI	Radio antenna with ether distribution represented by lacerator radiating from the top of blot and magnetic fluid permeating the soil beneath.

TABLE I (continued)
*Comparison of Responses Obtained by Group Administration of the Rorschach
 From Four Individuals Varying Widely in Personal Adjustment*

WELL ADJUSTED INDIVIDUAL Age 20	PROFOUNDLY MALADJUSTED INDIVIDUAL. RECENT SUICIDE ATTEMPT Age 20	INDIVIDUAL WITH ORGANIC CEREBRAL LESION Age 40	PSYCHOPATHIC PERSONALITY, SCHIZOID TYPE] Age 20
VII Two women about the middle of the 19th Century. Both pointing in different directions.	VII Charms.	VII This as I see it is a very hard thing to describe as a dead bug that has been dead for a long time.	VII A graph representing the similarity of pattern and the paths a human life may follow. At base, the first major event is birth, in poverty, in wealth. Second major event is maturation and its ramifications. The last event being inevitable and complete inertness reached by all living things good or bad.
VIII Crest of some institution or family, two animals flanking a crown. The crown is standing on an orange and red base.	VIII	VIII This is also a bug of some sort that has been laid away for safe keeping and has faded in color.	VIII Mirror image of marmot leaping from life, the red area, of vibrance to death, the jagged area.
IX Red and green figures, Chinese dragons or devils, standing on lower red base, possibly smoke or flame.	IX X-ray	IX This bug has five or six different colors. Also very large in size I am sure.	IX If side view is taken a man is sitting smoking his pipe pondering over a map of Corsica with bloody clouds looming up behind him.
X The cross section of a red tulip upside down. (D) There are blue flowers on each side. (D) There are also yellow and orange buds of some other plant.	X Fish (D)	X This is also a large bug spread out very large in size with about six different colors.	X Mantis, male and female in the act of coitus. (D)

structure and the choice of words is significantly different in the four records—a difference which comes to light by the group method.

Are the Records Different Under the Two Methods?

The second question which comes to mind concerns the differences, if any, which would result from the change of method in any individual's case. Granted that records are recognizably normal or abnormal (a vitally important fact in screening) are there nonetheless differences in a given record in the distribution of the responses (where locations and determinants are concerned) which can be proved to be the result of change of method and of that alone?

In order to answer this conclusively one and the same individual should be able to take the test both ways, each for the first time! Unfortunately this is not possible in the nature of things, so we are left to make the best of two alternative procedures. Either we can make the *same subjects* take the test both ways, arranging them in control and experimental groups so as to isolate the inevitable factor of repetition and contrast it with the factor of change of method, or one can take *two different groups*, matching them subject for subject as nearly as possible and give each of these groups the test under the different conditions. Both of these procedures have been undertaken, the first as part of our development of the method (2), the second by Hertzman (7).

In our original study (2) the 110 subjects who took part were divided into four groups, two *control* groups who repeated the individual and group test respectively and two *experimental* groups who took in the one case the group test followed by the individual, and in the other, the individual test followed by the group test. All repetitions occurred within five days of taking the first test in order to rule out any change in personality due to development or a change in life situation.

The most striking finding which emerged from our study was the fact that the only consistent changes which occurred were those which occurred as a result of *repeating the test* and not as the result of the change in method. That is, the *same* changes occurred in the second test among the control subjects *where no change of method had been introduced*, as occurred in both experimental groups, i.e., regardless of which method was used in the repeat test! These changes were a decrease in the W percentage and a corresponding rise in the percentages of D, d, and Dd, and a slight but consistent decrease in CF responses with a corresponding rise in FC.

It is not true, of course, that the records of any individual were identical on the two occasions. Changes in F% and even a reversal of

the M:C ratio were sometimes noted, but such changes could not be ascribed to the fact that the method had changed, for they occurred equally frequently when the method had remained the same, as in the control groups.

Hertzman (7) has shown in a careful and detailed analysis in which he followed the alternative procedure of working with matched subjects that certain differences emerged between his groups which, since no repetition was involved, could not be explained in this way. These differences, however, were in his opinion much less important than the significant similarity between the two tests. Two of the differences which he found in the group test, namely fewer responses given and fewer shading responses, interestingly enough, appeared as changes in the reverse direction in the groups studied by Munroe (8) and Buckle (9), namely *more* responses in the group test and an increase in texture responses! It is probable that the character of the groups studied affects such changes more than is realized.

Where Can Such a Test Be Used?

The third question which one naturally asks is where can this test be used and what types of subjects are capable of taking it?

Devised primarily for military use the test has, during the two years of its availability, been tried out in connection with a variety of problems involving military personnel. Psychologists in station hospitals, rehabilitation centers, and the like are trying it and in many cases have already incorporated it into their regular program. The published reports of these projects will probably not be available for some time. We may mention, however, one or two of those which have already appeared in print. The group method has been used in the Australian Air Force for some time as a recent report of Buckle and Cook indicates. (10)

Under the direction of Klopfer and Sender group Rorschach examinations have been given every two weeks as part of the program in one unit of the Signal Corps. The use to which the test has been put in this case has been for the "purposes of adding information concerning personality adjustment and emotional stability to other information derived from psychological tests, experience background and progress in training." The objective has been to provide as much evidence concerning the nature of the assignment best suited to the individual as possible." (12) A comment on this study recently received by Dr. Klopfer from the commanding officer may be quoted in this connection: "The use of the group Rorschach psychodiagnostic

technique in evaluation of the qualifications of student officers for assignment is proving extremely valuable. When used in conjunction with our other psychological tests, it provides an opportunity to observe the interplay between intelligence and personality and to estimate the emotional stability of the officers under stress and responsibility. This knowledge allows us to recommend assignment according to the best interest of the service." (15)

Hertzman and Seitz have had considerable success with the group method in high altitude studies in which changes in personality occur. Hertzman (11) has recently reported "In a current experiment the group Rorschach has been shown to be a sensitive indicator of changes in adjustment occurring under high altitude conditions. The experiment, which is one of a series, has indicated that the group test is at least as adequate an indicator of changes as the individual test had previously been found to be for similar conditions."

Ross, Dancey and Brown (13) report the use of the group Rorschach with parachute troopers in training in Canada. In this investigation it was shown that "... the group of 35 men after failure to complete training have been shown to give Rorschach scores significantly more unstable and more neurotic than the group of 65 studied at the outset of training." The authors conclude, however, that "... the group Rorschach, by itself, cannot provide a criterion for prediction of the remaining paratroopers unlikely to complete their course when these have already been selected by personal interview."

The method has also been found of value in child guidance clinics and guidance centers. Krugman, (16) for example, reports: "At the senior high school level the group method serves a useful purpose. The writer recently participated in a rather intensive study of 650 boys, in the third and fourth years of the academic high schools of New York City, who were enrolled in advanced pre-flight aviation courses. Among the battery of psychological tests employed was the group Rorschach." ... "Although far from complete, preliminary results indicate that, although the group test will probably not yield as many data as the individual Rorschach would have, the data yielded possess far greater usefulness for personality evaluation than any other pencil-paper 'personality' test now known to the writer and his colleagues."

In hospitals there are several studies in progress as, for example, that recently referred to by Hirning (17) on allergy patients and by the same author in connection with rehabilitation of tubercular patients.

Surprisingly enough the method can be used successfully in institutions for psychotic patients. Even quite seriously disturbed patients

may be brought to take the test under group conditions when, because of suspicion or an extremely negativistic attitude, the individual method has failed.

In this connection it has recently been pointed out that some of the psychoneurotic casualties who were unable to take the individual Rorschach have become "caught up" in the group administration of the test so that they are able to participate. The darkened room and the feeling of companionship with the other patients involved in the same activity apparently broke down the barriers of resistance. For example, Hutt (23) states: "When the rate of intake (of patients) did not permit the use of the individual Rorschach, the writer adopted a modified group Rorschach test. This was essential in order to set up quickly some group therapy and group activity programs for the reconditioning of the neurotic casualty. It was soon found that the modified group method yielded leads for therapy and were not readily obtainable in all individual Rorschachs. Moreover, the group situation seemed to facilitate responses in the cases of some soldiers who were reluctant to respond in an individual setting. The method used may be described briefly as follows: "Approximately 15 soldiers were examined at one sitting in a fairly large room. A brief orientation was given about the 'ink-blot' test and they were then asked to write their spontaneous responses to each of the blots as they were projected upon the screen, using one-half of the page. After all ten blots had been shown in this manner, they were projected upon the screen over again as part of the inquiry. (The soldiers used the other half of the page for this purpose.) Finally, the Harrower-Erickson Multiple Choice Test was administered as a kind of 'testing the limits.' The clinical interpretations obtained in this manner upon 114 cases agreed essentially in 82% of these cases with the total clinical finding as approved by the psychiatrist in charge."

Prisons and reformatories have also put the method to use. Some aspects of the studies made at Sing Sing by the authors (18) (24) may be quoted here. Two groups of prisoners were examined. One group was composed of sex offenders, the other group contained persons serving terms for murder, burglary, grand larceny and forgery. "No information concerning any of the prisoners serving sentences was given to the Rorschach examiner until their performance in the test had been reported. The range of intelligence quotients in the two groups was between 77 and 140 with approximately 50% scoring 100 or below. (These ratings had been previously obtained and were taken from case histories.)

"It is interesting to note that the cooperation of these prisoners in both groups was excellent. No antagonism was shown toward the examiner, or skepticism concerning the purpose of the test. In fact so eager were all the participants to make themselves useful and to receive special attention that there were not nearly sufficient small 'jobs' in connection with the test to go around. In consequence of this good cooperation the instructions were carried out carefully and with considerably greater accuracy than had been found in other more privileged groups.

"A survey of the results obtained revealed many points of interest, both in regard to the feasibility of using such a method of personality evaluation in penal institutions and in regard to theoretical questions pertaining to the group method of the Rorschach test. It showed for instance, that the group procedure is a perfectly suitable test for persons of below average intelligence. Twenty-five percent of those tested had IQ's within the 70-90 range, and all records obtained from these persons were of such a nature that they could be scored and evaluated without difficulty.

"It was also demonstrated, as will of course be anticipated, that no typical or uniform 'criminal personality' existed among the prisoners. Neither can it be said that a 'typical personality' was found as to murder, burglary, and the like. The record of each of the forty subjects was as diverse and 'individual' as any record obtained from an unselected group of a similar number might be. Some persons demonstrated very profound psychological disturbances; a few showed well-adjusted personalities; the majority showed considerable deviation from the normal but this deviation took a variety of forms. By and large the more disturbed personalities were found in the group of sex offenders." (24)

However, as will be shown in Part II where the records of these prisoners are analyzed, certain consistent deviations from comparable groups of normals stand out clearly, chief of these being the marked predominance of the explosive and more primitive type of emotional responses over the more adjusted and well-integrated ones. (CF higher than EC)

Lindner and Chapman (19) (20) have also reported the routine use of the group method at the Lewisburg Penitentiary, finding it of considerable value.

Interesting research projects include a study of different professional and vocational groups. Harrower and Cox (21) recently reported an investigation in which organists, metallurgists, commercial artists, engi-

neers, clergymen, social workers, and insurance salesmen took part. They report: "Inasmuch as the groups were small, any differentiation between groups would have to be made with a statistical method set up for such a purpose. A modified form of Fisher's analysis of variance, developed by Dr. Robert W. B. Jackson, was used, in conjunction with Snedecor's Tables, which give the 5% and 1% points for the distribution of F. Inasmuch as this study is largely exploratory, the 5% point was used, as indicative of differences worthy of further investigation."

Some of their results may be seen in the following quotation:

"An examination of the approach the various professions took to their problems is interesting. The social workers, the clergymen, and the metallurgists took the most systematic and analytical approach to the problem, using first a whole response and then breaking it down into the detail responses; the artists and insurance salesmen took the least systematic approach, picking out whatever first struck their fancy.

Among other tentative interpretations on the basis of group averages, one might postulate the artist as one who seeks in his work whole effects, details being incidental; his mind is rather undisciplined. The organist not only seeks whole effects, but is also concerned about details: his approach is much more systematic than that of the artist, suggesting that music is something more than an art, that it is to a degree a science. The metallurgist differs from the engineer in that he is a detailist, his major concern being his own particular aspect of the work, while the engineer sees his work as a whole. The clergyman and the social worker are very systematic in their approach to a problem, but they differ in that the clergyman seeks generalities rather than specific applications: the former is more introspective than the latter. The insurance salesman gives evidence of considerable drive: he does not express as creatively as he might. The engineer takes a more general approach to problems than does the metallurgist."

The study of Piotrowski and Candee on the selection of outstanding mechanical workers is also of great interest. These authors were able to differentiate correctly 88% of the 78 cases in terms of their being outstanding or poor mechanical workers. In a recent article Piotrowski (22) reports: "The Rorschach ratings of seventy-eight workers were compared with ratings made independently by the foremen. The investigation indicates that general personality traits have a bearing even on mechanical work." . . . "The results which have been gained with the specific vocational use of the Rorschach method justify the hope that this specific use will be a promising field of exploration for vocational psychologists."

The use of the group Rorschach in schools and colleges has grown considerably during the past two years. Utilization of the method for guidance, screening, or research in personality is in progress in some fifty educational institutions at the present time and validation studies on the group method at the Brush Foundation have already been published by Hertz. (6) Examination of all entering freshmen at McGill University was undertaken by the authors three years ago and some results are now available which show the relationship between academic performance and the evaluation of personality as seen in the group Rorschach records. (15) In addition to a detailed personality description an over-all personality rating was given to each student ranging from "excellent" to "very poor."

Of the 108 students examined 94 fell between "excellent" and "just below average," while 14 showed severe personality difficulties or inadequacies. Of those with "poor" and "very poor" personalities, 93% had been in some kind of academic difficulty by the end of the first year and a half while only 14% of those without severe personality difficulties had been in similar trouble.

Below are epitomized some of the findings from the above mentioned study. The manner in which these results were obtained may perhaps be mentioned. The names of all those who did outstanding work and of those who did extremely poor work (failed in many subjects or were dropped) were sent to the Rorschach examiner by the secretary to the faculty of medicine. Those who fell into neither of these groups but whose work was satisfactory were not mentioned by name. Among the 86%, therefore, are included the names of those who did exceptionally good work and those whose names were not mentioned.

TABLE II

Personality Rating	Number	Work Good or Work Satisfactory	Poor Work Several Failures Dropped
Excellent.....	94	86% (81)	14% (13)
Above average.....			
Average.....			
Just below average.....			
Poor and very poor.....	14	7% (1)	93% (13)

Sometimes specific predictions were verified in an interesting way as, for example, those that commented on an individual's anxiety or emotional immaturity, as may be seen in Table III on page 19.

The most thorough work in this field has been done by Munroe

TABLE III

Prediction of Possible Disturbance Due to Anxiety	Results
"Basic potentialities better than 'poor' group, but at present disturbed and anxious. If this continues . . . likely to produce detrimental effect on studies. If they can work out of their difficulties they will probably make the grade."	U. Failed all subjects. "Worried and could not attend." Referred for psychiatric examination: anxiety state diagnosed.
	A. Age 40. Has wife and family and serious financial worries. "Carried outside employment. Extensive lung shadows found over which he worried a great deal."
Prediction of Possible Disturbance Due to Emotional Instability	Immediate Report
"For his age this man is not stable or adjusted. Although he has considerable driving power, he nonetheless shows an immature personality structure. He has not yet successfully integrated his drive into a constructive scheme of work. Emotionally he is still explosive. For general purposes he has adequate self-control, but this control is achieved at the cost of considerable strain. A poor risk."	"The report includes some surprises as, for example, Mr. Z. who is an older man with a successful career behind him and a personality of considerable energy." Report one year later.
	"Mr. Z. did not write any of his examinations as he felt he was not prepared. He was required to retire. He was a curious individual with a great deal of drive and I think your analysis of him hit him off extremely well."

whose studies at Sarah Lawrence College are well known (14). Some of her most recent results are quoted here in considerable detail since they are not only an excellent example of what can be expected from the group method in the hands of the expert, but because they raise the very interesting question of the interrelation of intelligence and personality in academic success and failure. The "check list" devised by Munroe and discussed below is an extremely valuable asset for the handling of a large number of group records systematically and objectively.* Munroe recently summarized some of her findings as follows:

"Large-scale application of the Rorschach test, using the group method of administration developed by Harrower-Erickson and some means of rapid assessment, is still a new venture. I think that I can contribute most to the discussion of this problem by reporting recent developments in our experimentation with such use of the test at Sarah Lawrence College. Perhaps the most immediate interest of our results is further confirmation of the validity of the group Rorschach. I would like, however, to draw your attention to the special way in which we used the group test, because the results seem to have important implications for more general problems of selection and of test construction.

* See footnote p. 25.

"The Rorschach is a versatile instrument. The raw responses to the ink blots reflect so much of the personality that many lines of differentiation in personality analysis can be developed. Until recently, the fully trained expert has used all the data in the test with as much clinical insight as he could muster. This is undoubtedly the ideal procedure, because the examiner has at his disposal fairly good norms for single items and key relationships of data. He also has a knowledge of how clinical syndromes are expressed in the test, which is unfortunately no more uniform from one subject to the next than the symptomatology of two schizophrenics is identical. Bringing all this material together into a sound diagnosis takes time and skill—the same order of skill that a psychiatrist must have in sorting the data of case history and interview into a significant picture of the personality.

"Large-scale testing does not permit the necessary time for this type of evaluation, and large-scale testing must ultimately be done by psychologists less elaborately trained. Moreover, the Rorschach is being used in new fields for new purposes. Efforts are being made in several directions, therefore, to reach more objective criteria for special conditions or special aptitudes. The "neurotic signs" developed by Harrower-Erickson represent one example of this trend. She found that diagnosed psychoneurotics actually deviate from normals more frequently on 9 items than on any others. Most neurotics and few normals have more than 4 of these "signs." Similar work has been done or is in progress on patients with organic brain conditions, on schizophrenics, on psychopaths, etc. Piotrowski and his colleagues have statistically isolated 3 "signs" important for success in shopwork. Bigelow and also Molish have compared the protocols of successful and unsuccessful aviation cadets to determine objectively which items differentiate these groups most adequately. Such investigations can clarify, objectify, and, at times, for some purposes even supplant the general clinical evaluation described above. All of these efforts are directed, however, toward the diagnosis of *specific* conditions.

"Before coming to the discussion of our different procedure at Sarah Lawrence, I should also mention the kind of work Harrower-Erickson has done in quickly predicting success in medical school. Indeed, I have done it myself in giving to students a rating that I called specific academic prediction. Harrower-Erickson obtained excellent results. Our results were also very good. Out of 45 ratings, aimed at predicting academic performance, 39 were "on the nose" according to the general average established for the student's work during the first year; only one was badly discrepant. Nevertheless, I feel that these ratings, how-

ever successful, did not adequately meet the necessary criteria for large-scale testing. They were highly composite affairs, based not only upon our knowledge of the students through their protocols, but also upon our awareness of the specific requirements of the academic situation. Our method was essentially "clinical," dependent upon our personal insight. I am sure Harrower-Erickson would agree that future development of large-scale work should envisage both a more objective approach to the evaluation of the student and more precise knowledge of what the situation demands.

"We have already tried to be more precise in one direction at Sarah Lawrence, though in a manner which may sound paradoxical and is certainly very different from the investigations mentioned above aimed at specific diagnosis. What we did was to give each student a quantitative rating on "general adjustment," *excluding* so far as possible her adaptation to specific academic requirements; indeed, excluding the selection of any particular type of personality. (We will discuss, at some length, later the objective criteria in the test for this rating. It seems preferable to describe first what it is and how it works.) Unintelligent and unintellectual girls, introverts and extraverts, aggressive and timid individuals, complicated and simple souls were all rated "adequate" provided the personality seemed to be functioning well. "Functioning well" meant initially—to be frank—nothing more than having a "good" Rorschach protocol. This criterion is, on reflection, pretty sound. The test was developed by clinicians who knew mental disturbance in variety and had no particular axe to grind in defining normality. Indeed, they did not define it at all, except "operationally." Reflection on the nature of the test suggests that what a good protocol means essentially is a reasonable balance or integration between the impulsive and controlling forces in the personality. Control must be adequate but not excessive or too repressive. Great latitude is allowed in type and intensity of impulse and type of control, but their relationship must be sound. In behavioral terms we defined adjustment very simply as the ability to "get along" reasonably well with reasonable inner comfort. Occasionally, we rated a girl badly adjusted with an asterisk to indicate that she gets along well, but at too high a cost to her own comfort.

"I shall depend primarily on our experimental results to show that this apparently vague concept of "general adjustment" does mean something that is empirically rather precise, useful, and measurable. I must first describe the experiment. For two successive years (1940 and 41), we administered the Rorschach to the entire entering class

at Sarah Lawrence College (225 girls in all), under carefully controlled conditions. Teachers were not informed of test results in order to guarantee complete independence of judgment. (Beginning this year the test is being used on a practical basis. A feature of the work not presented here is a descriptive sketch of each student. Ratings and sketches are now available to teachers.) Evaluations from the test were made "blind," i.e., with no information about the student except her response to the ink blots. The test ratings were compared in June with the ordinary college records of academic performance and explicit notation of emotional difficulty—chiefly the list of girls brought to the attention of the college psychiatrist. His advice is frequently sought by teachers in cases of minor maladjustment without referring the student directly.

"The adjustment ratings were very successful in predicting adjustment. Out of 100 girls rated "adequate" (A or B on a scale running from A to E), only 3 appeared on any list of students in any sort of trouble, and 2 of these had minor upsets quickly solved. On the other hand, out of 33 students brought to the attention of the college psychiatrist, 30 had been rated as moderate or severe problems, 20 of them as severe problems. Many of these cases were not at all serious, of course, and with one striking exception, the Rorschach rating corresponded well with the psychiatrist's estimate of degree of difficulty. Ten of the 13 girls rated in the worst category by the Rorschach in 1941 either failed outright in their studies or had prolonged psychiatric attention, and the others were spontaneously described by teachers as rather neurotic.

"Of greater interest to the present discussion, however, is the fact that 18 out of 19 students who were either dismissed or conditioned in their freshman year had poor adjustment ratings. Half of these girls were above the median on the ACE (American Council on Education Psychological Examinations, an intelligence test) one quarter above the 90th percentile. Thus outright academic failure in the freshman year seems far more closely related to problems of adjustment than to lack of intelligence. (This statement must not be reduced to the absurd. All entering students have a certain minimum of intelligence.)

"The adjustment rating predicted degree of academic success *short of actual failure* as well as the intelligence test, but no better. Seventy-four percent of the adjustment ratings and 71 percent of the ACE scores (for purposes of comparability, the total distribution of ACE scores was reduced to 5 groups ranging from bad to good, numerically equivalent to the Rorschach ratings E to A) tallied with the academic

average, excluding the cases of failure and conditioning. The point that I find most significant, however, is the relationship between the two tests. Failures in the prediction of each measure can be at least partially explained by the other. The small group of unadjusted girls who did satisfactory work all stood above the median on the ACE. Conversely, with very few exceptions, the adjusted girls whose work was on the poor side stood in the bottom quartile on the ACE. *The two tests seem to measure demonstrably different things, both of which are important in academic performance.* An effort to *combine* them yields the following very suggestive results:

"1. When the two measures point in the same direction, good or bad, their combined predictive power is almost perfect. No "adequately adjusted" student with a good ACE score failed. No "poorly adjusted" student with a low ACE score did fully satisfactory work. There were very few discrepancies with external measures of performance even of a minor degree.

"2. Girls with "adequate" adjustment ratings and low ACE scores form a group which includes neither superior scholars nor outright failures. Half of them proved to be weak students and several were rejected for return as juniors, although their work for the two lower years was considered passable. Many of them made valuable contributions to the college as *people* and seemed to profit by their education as much as girls who got better grades. In short, this group causes no serious trouble, but is likely to do mediocre work, at best, and, at worst, to trail along near the bottom academically.

"3. The most unpredictable group consists of girls with poor adjustment ratings and high ACE scores. This group contributes half of the dramatic failures and more than its quota of girls who just squeak by. It also accounts for several very superior students. Statistically speaking, girls in this category are poor risks. To eliminate them altogether is both impracticable, because there are too many, and undesirable, because one would eliminate the very good along with the very bad. These girls are probably the square pegs who need square holes, but an impressive number of them are well worth any special attention or tolerance required. Looking beyond the academic scene, it is probable that a good many distinguished, creative people—scholars, artists, aviators, etc., would do as badly on any general adjustment tests as the crackpots and dismal neurotics we would like to rule out.

"Sensible procedure might be to avoid "speaking statistically" about this group and devote whatever time is available for selection to individual study of each case. Some types of maladjustment are likely

to prove difficult in all situations. More specific identification of what is wrong will suffice to cut out these cases. Other types must be studied more carefully to determine whether their assets are especially important for the situation under consideration and their difficulties such as can be handled.

"In spite of the fact that our evidence is too limited in scope to warrant safe generalization to other fields, it does, to my mind, suggest a useful hypothesis. Fragmentary observations strongly support the idea that the same problems obtain elsewhere. I should like to urge further experimentation with the concept of "general adjustment," as an empirical entity, to be measured separately and then combined with appropriate indicators of the special qualities required for any job in some such manner as that outlined above. It is not enough simply to screen out the mentally ill, and to measure special aptitudes or character traits independently. The concept of adjustment applied to the entire range of cases can probably be made to show, in a quick, practicable manner, the actual relationship between general personality factors and assets for a particular job. Prediction of success or failure could be made from a statistical combination of test scores with great accuracy in the majority of cases. The small group where errors are most likely to occur is isolated for more intensive study and the problem to be considered is clearly posed.

"A further advantage of the concept is that the adjustment measure can be used in new contexts, as desired, with different sets of special data. A composite measure, oriented toward a particular situation but including personality factors (like our academic ratings and probably Piotrowski's signs), is less suitable for prediction in other fields. I should, perhaps, also emphasize the idea that "special data" could include not only aptitude tests, but also tests of personality configuration like the Rorschach itself differently analyzed, physiological measures and items from the case history.

"That our results are not due exclusively to the magic of ink blots is shown by the fact that Mrs. Schnidl-Waehner obtained similar findings with an adjustment rating based upon her method of evaluating spontaneous drawings. Once the goal is clearly set, it should be possible to devise other techniques of measurement, possibly more practicable for large-scale use.

"This statement brings us back to the problem mentioned earlier of making the Rorschach evaluation more objective. Unlikely as it may seem, "general adjustment" is a rather simple thing to measure by the test. After all, we defined the term originally as having a "good"

protocol and elaborated our psychological concepts after the fact, when we found that this definition worked out well in practice. To our own surprise, we found that the method we have developed for quick inspection of the protocol actually yielded a *numerical score* of impressive validity independent of our expert judgment.

"What we did was to prepare a mimeographed check list of 30 items generally considered significant in Rorschach diagnosis* (Note: these items remain in technical Rorschach terms—F per cent, color shock, CF:FC, etc. They are not translated into judgments of behavior. The reader unfamiliar with the test must be content to assume that this abracadabra makes sense if it actually works.) Its original purpose was merely to provide a guide for *systematic* review of the whole personality as represented in the test, and a way of recording our findings quickly for future reference. We tried to omit nothing of general importance and also to include only the major points in each sector of evaluation—color, form, movement, shading, content, etc. Our method of recording was to enter a check against any item on the list where the protocol under consideration showed a marked deviation from the usual. Two or even three checks were entered when the deviation was very marked. Thus normal reaction to the appearance of color received no check, mild color shock one check, severe color shock 2 or 3 checks.

"The rating discussed above is based upon a qualitative evaluation of all the data we were able to grasp in a short time, and it is more discriminating than the quantitative method now to be presented. Looking over our material, however, we found that simply *adding up the number of checks on the list for each student gave us a figure which corresponded well with the external criteria used to check the ratings.*

"Sixty-four students out of 121 had 6 checks or less. None of these girls was markedly disturbed and only one had even a mild, temporary upset. Conversely, the group of 31 girls who had more than 10 checks, included all but 2 of 19 students who showed fairly serious difficulties, academic or personal. In fact, only 4 of these girls did entirely satisfactory work and the descriptive comments of teachers suggested that none of them could be considered well adjusted.

"It does not seem possible, by *counting*, to evaluate degree of disturbance among the 31 girls having more than 10 checks. To date, this finer discrimination can be made only by the judgment of the examiner based on more complicated analysis. Reduction of a group of 121 to 30 for more careful study is of great practical importance, how-

* Munroe's check list is now included, for the examiner's convenience, in the Group Rorschach test booklets designed for use with this manual.

ever, especially since filling out the check list seems to require far less experience and skill than orthodox use of the Rorschach. A rough knowledge of the scoring system is sufficient.

"In comparison with this method, we also tried out Harrower-Erickson's criterion of "neurotic signs," equally objective and somewhat quicker. Students having not more than one "neurotic sign" kept out of trouble to the same degree as those having not more than 6 checks. No other discrimination could be made by the "signs," however. Girls with 2 "signs" had difficulties almost as often as those with 3 or 4. This finding is not surprising if the neurotic signs are actually a measure of overt psychoneurosis. Very few college students have the open symptomatology characteristic of diagnosed patients. Neurosis *narrowly defined* is by no means the only reason for failure to handle life situations effectively.

"Reflection on the nature of the check list suggests that it works because, by design, it offers a *systematic* and *comprehensive* coverage of the resources of the personality. Adding up checks, therefore, becomes a meaningful procedure. Upward of 10 single checks scattered all over the lot actually mean a diffuse disturbance very likely to reduce the person's effectiveness—and very likely to be missed by the "neurotic signs." More serious difficulty in one or more sectors of adjustment, represented by double checks and a multiplication of checks in the same area, is reflected in a high score, *unless* all the other resources of the personality are functioning unusually well. A subject with marked difficulty in external relations will have a high number of checks in the color area. To keep the total number below 10 his handling of all other aspects of the test must be almost perfectly sound. An adequate score means that *other resources have been tested and found good*.

"As a rule, there is good correspondence between the neurotic signs and the check list—as would be expected from the fact that the check list includes all the signs. Discrepancies are likely to be clinically significant—a measure of the fact that secondary factors in the personality are either contributing unduly to its inadequacy, or on the contrary are functioning so well that the subject can handle his difficulties effectively. Our material suggests that, for unselected groups, it is worth while to spend the small amount of extra time required for recording the supplementary data.

"In passing, I would like to throw out the suggestion that such tests as the Bernreuter predict "adjustment" badly, not so much because they are questionnaires as because the questions they ask are neither comprehensive nor systematic. Some types of failure in adaptive mechanisms are overemphasized, others neglected. Statistical item

analysis does not handle this problem at all unless the experimental "bad" group presents a single syndrome. These questionnaires have avowedly started with a list of symptoms and traits, not with an over-all concept of personality resources nor even clinical neurotic entities. Items have been retained when they occurred frequently in a heterogeneous "bad" group. If we are correct in ascribing the observed success of the check list to its systematically inclusive character, it seems plausible to account for the observed inadequacy of the Bernreuter by the unsystematic character of its construction. (The Bernreuter was given to the group of 225 girls here discussed. Its prediction of emotional difficulty was somewhat better than chance, but not much. Failures in prediction did not show the relationship to the ACE described above for the Rorschach—nor was the large group of adjusted girls clearly delimited.) A psychiatrist would understand at once that a person may have few of the "frequent" neurotic symptoms and still be very neurotic, and that some quite adequate persons may be consistently on the introverted side—a trend which scores strong neurotic tendency on the Bernreuter.

"Again, our experimental material does not permit sound generalization. It seems likely, however, that our adjustment rating succeeded beyond other attempts of the sort, not so much because it was based on ink blots, as because of the way personality data are handled in the Rorschach and especially in our check list. The survey of the personality is complex, systematic and comprehensive. A questionnaire constructed on similar principles might very well serve the same purpose.

"In summary, then, our findings suggest that a measure of general adjustment can profitably be separated from capacity to deal with a particular situation such as academic work and recombined with measures of specific qualities for prediction of actual success in a given field. This method may well improve statistical prediction markedly in the majority of cases and isolate for intensive examination the small group where failures in prediction are frequent.

"A numerical figure of good validity was obtained by adding up deviant items on a check list, thus providing a relatively objective means of using the Rorschach. The success of this check list is probably due to its systematic, comprehensive survey of personality resources. Such balanced comprehensiveness is proposed as a basic—and heretofore neglected—principle in the construction of adjustment inventories." (25)*

* See also (26).

What Are the Advantages of Such a Procedure?

The final question which we may ask is: what advantages accrue to the use of such a method? Before answering this let us admit that certain nuances in a record, obtainable by the individual method, will probably never be available under group conditions. The fact remains, however, that, even if a blunter weapon, we have in the group method an enormously powerful one. Quite apart from the practical advantages which pertain to the shortened time of administration, the amount of material which any one examiner can acquire in a relatively short space of time is startling when compared with the slow accumulation of individual records. To acquire several hundreds of records by the individual method in order that certain questions could be answered statistically was a major operation in itself. A similar number of records can now be acquired in a few hours. The availability of such large numbers of records opens up new avenues of research which in turn will greatly enlarge our understanding of the psychological processes involved in the original method of Hermann Rorschach.

REFERENCES

1. Abbott, W. D., Due, Floyd O. and Nosik, W. A. Subdural hematoma and effusion as a result of blast injuries. *J. Amer. Med. Ass.*, 1943, 121: 739-741.
2. Harrower-Erickson, M. R. and Steiner, M. E. Modification of the Rorschach method for use as a group test. *Rorschach Res. Exch.*, 1941, 5: 130-144. Also in: *J. Genet. Psychol.*, 1943, 62: 119-133.
3. Klopfer, Bruno and Kelley, D. M. *The Rorschach technique*. New York, World Book Co., 1942, viii+436 pp.
4. Rorschach, Hermann. *Psychodiagnostik*. Fourth edition, Bern, Switzerland, Hans Huber, 1942, 226 pp.
5. Sender, Sadie. The influence of variations in the Rorschach group method administration upon the scorability of the records. *Rorschach Res. Exch.*, 1943, 7: 54-69.
6. Hertz, Marguerite. A modification of the Rorschach inkblot test for large scale application. *J. Orthopsy.*, 1943, 13: 191-211.
7. Hertzman, Max. A comparison of the individual and group Rorschach tests. *Rorschach Res. Exch.*, 1942, 6: 89-108.
8. Munroe, Ruth. The group method with college students. Paper read at the meeting of the Rorschach Institute, New York, 1942.
9. Personal communication.
10. Buckle, D. F. and Cook, P. H. Group Rorschach method: Technique. *Rorschach Res. Exch.*, 1943, 7: 159 ff.
11. Hertzman, Max and Seitz, Clifford. Rorschach reactions at high altitudes. *J. Psychol.*, 1942, 14: 245-257.
12. Personal communication.

13. Ross, W. D., Dancey, T. E. and Brown, F. T. Rorschach scores of parachute troopers in training. *Bull. Canad. Psychol. Ass.*, 1943, 3, no. 2, 26-27.
14. Munroe, Ruth. An experiment in large scale testing by a modification of the Rorschach method. *J. Psychol.*, 1942, 13: 229-263.
15. Harrower-Erickson, M. R. The Rorschach method in the study of personality. *Annals of the New York Academy of Science*, 1943, 44, 569-583.
16. Krugman, Morris. The Rorschach in child guidance. *J. Consult. Psychol.*, 1943, 7, no. 2, 80-88.
17. Hirning, L. C. Report of the research committee. *Rorschach Res. Exch.*, 1942, 6: 177.
18. Banay, Ralph S. Psychiatric technique and rehabilitation. *Yearbook Amer. Probab. Ass.*, 1942.
19. Lindner, R. M. and Chapman, K. W. An eclectic group method. *Rorschach Res. Exch.*, 1942, 6: 139-146.
20. Lindner, R. M. A further contribution to the group Rorschach. *Rorschach Res. Exch.*, 1943, 7: 2-15.
21. Harrower, George and Cox, Kenneth. The results obtained from a number of occupational groupings on the professional level with the Rorschach group method. *Bull. Canad. Psychol. Ass.*, 1943, 3, no. 2, 31-33.
22. Piotrowski, Zygmunt. Use of the Rorschach in vocational selection. *J. Consult. Psychol.*, 1943, 7, no. 2, 97-102.
23. Hutt, Max. Some notes on the usefulness of the Rorschach method and the Rorschach as a group test. (Paper read at the symposium on the use of the Rorschach method in the armed forces, 1944.)
24. Harrower-Erickson, M. R. Personality testing in penal institutions. *Probation*, 1943, 22: no. 1, 1-6.
25. Munroe, Ruth. Discussion of the paper, "The Rorschach method in the study of personality," *Annals of New York Academy of Sciences*, 1943, 44: 583-588.
26. Munroe, Ruth. Prediction of the Adjustment and Academic Performance of College Students by a Modification of the Rorschach Method. *Appl. Psychol. Monog.* #7, Stanford Univ. Press. 1944.

SECTION II

Directions for the Administration of the Group Rorschach

ADMINISTRATION of the *group Rorschach* is not a formidable or difficult task. Anyone who has given the test under the usual conditions will find that he is easily able to cope with a group of subjects once he has familiarized himself with the procedure.

So much depends, indeed, upon the particular examiner's rapport with his particular group that we are inclined to say that no absolutely hard and fast rules can be laid down. If an examiner finds himself forced, for instance, to alter, add, or omit some part of the following procedure or instructions, he is probably doing what is right for his own set-up and group of subjects and need not be disturbed. This is not tantamount to saying that the test cannot be standardized, but rather that here, as in the individual procedure, the spirit rather than the letter of the law must be followed. If one understands the kind of written response that is needed in order that the record may be properly scored and evaluated, it is not hard to deal with the situations which arise in order to be sure that each record is as complete as possible.

Since the general procedure has been briefly outlined in the previous chapter, we may now turn to a consideration of the details one by one.

Slides

Carefully reproduced slides of the ten Rorschach cards¹ whether in the regular lantern size ($3\frac{1}{4}$ inches by 4 inches) or on the 35 mm. Kodachrome roll film have been found to be satisfactory. For larger auditoriums the regular sized slides are recommended, but in small class rooms the 35 mm films are equally good. It is also possible to use the cards themselves in an epidiascope, provided the epidiascope is in good condition and reproduces a clear and complete picture.

¹ The reproductions of the Rorschach cards were originally made for our use by Mr. H. S. Hayden, F.R.P.S. Cards II, III, VIII, IX and X were made on Kodachrome cut film; Cards I, IV, V, VI and VII on Ilford lantern plates. The slides are now made by M. E. Diemer, Ph.D., at the Diemer Photographic Studios, Madison, Wis. All sets of slides are checked by the experimenters, as it was found that slight differences in shading, imperceptible to persons not familiar with the cards, were sufficient to give a wrong "flavor" to the blot. Slide 7 for example, if slightly too dark, may lose its "cloudiness." The set used in our initial experiments has been taken as the standard, and subsequent sets have been equated with it.

Projector

A standard sized projector placed so as to produce an image of approximately 5 feet by 6 feet seems very satisfactory for large auditoriums. In general, however, it will be found that the usual position of the projector in the auditorium in question may be accepted as the correct one. Thus no hard and fast rule can be laid down as to the exact size of the image thrown on the screen. There is one important point in this connection, i.e., that the examiner looks at the image from all the side seats (so as to be sure that there is no distortion from too great an angle) and from the front and back seats (to check on the possibility of too marked a discrepancy in size between these two positions). In a very large auditorium the seats in the front two rows and back rows may have to be discarded.

Visibility of the Image to All Subjects

McCulloch (1) has made an interesting suggestion in connection with the seating arrangements and their effect on the results; namely, that inasmuch as subjects differing in visual acuity are scattered with respect to their distance from the screen, it would be well to include a standardized lantern slide of a Snellen chart and have each subject record the lowest line of letters legible to him. He states:

“A correlation of the letters actually visible to the particular subjects under these circumstances, with their tendency to respond to forms as a whole or to pick out details, might indicate that a purely extraneous type of response was obtained. The lack of such a correlation would of course indicate its insignificance.” In order to settle the question experimentally, Dr. McCulloch has prepared lantern slides in which the entire height of the standard Snellin chart occupies the same height as the Rorschach blot on the slide.

In the same way we might add here that it would be advantageous to include, as a standard preliminary, one of the Ishihara charts in order to detect those persons with color blindness or color weakness in the group.

The Screen

The screen that is already in use in the auditorium will be found in most cases to be satisfactory provided it is in good condition. Beaded screens give very brilliant images from the center of the hall, but give definitely less saturated images from the sides. If the screen is beaded, therefore, subjects must be seated in the center of the hall only.

Lighting

This phase of the work constituted somewhat of a problem. In order that the slides may be seen to the best advantage, the room or auditorium should be as dark as possible. On the other hand, of course, some light is necessary for the recording of responses. Our first idea was to use one dim light somewhere in the auditorium but we found rather to our surprise that the light from the slides themselves was sufficient to enable our subjects to write their responses. That this was possible may have been partly due to the fact that our auditorium was built up in tiers so that for no person was the light obscured by the individual in front of him. We therefore must emphasize that this was a condition which was possible in our auditorium but which perhaps would not be possible in others.

We tried out one variation but found it unsatisfactory. This was to switch the light off and on alternately for periods of 30 seconds, requesting observation during the dark period, and recording during the light period. Interestingly enough those subjects submitted to this variation unanimously requested to be allowed to write in the dark. Probably the best suggestion is to have one dim light available at the back of the hall shielded so that it does not shine directly on the screen, but bright enough to afford some guidance in the matter of recording. We always stressed the fact that handwriting need not be neat, and to our knowledge no difficulty arose in this connection. All answers, incidentally, were perfectly legible. When the slides were changed, the light in the projector was extinguished momentarily, thus contributing to, rather than lessening, the dark adaptation. This is a minor point, however, and it is quite possible that a momentary period of brighter light would have been a better interlude than the momentary total darkness.

Time

After considerable experimentation a three-minute exposure of each card was decided on. Time intervals shorter than three minutes were not long enough for the average subject. Intervals longer than three minutes were unnecessary except in a very few individual cases. If, however, there is no time limit to the experiment as a whole, there is no reason why more time might not be allowed to each card. One of the aims in this particular experiment was to see whether the whole test could be completed within approximately one hour, and having discovered that this was possible, we kept the total time constant for all our groups.

Turning the Slides

In the same way it might be said that if a longer total time is to be allowed, each slide might well be exposed for perhaps one minute in the reverse position in addition to the three minutes in the usual position. Our experience on this point, however, leads us to conclude that not enough was gained by this turning to justify the extension of the time limit we had set for the test. It is also interesting to note that certain answers were given as if the cards had been turned, the subjects turning their heads so as to get the impression more clearly.

Manner of Recording Responses

Special booklets were prepared for the subjects to write in, all answers pertaining to one slide being written on one page, and the pages turned as the slides changed. Originally the pages were folded so as to conceal the diagrams used in localizing the responses. This proved unnecessary and the booklets now used are not folded. Hertz (2) and Sender (3) have suggested other types of recording blanks.

Instructions

It may be valuable at this point to outline in chronological order the series of events as they took place. When our subjects arrived in the auditorium they found in each seat a pencil and the booklet in which the answers were to be recorded. A notice on the blackboard stated: "Do not open the booklets you will find on the seats." The examiner waiting in the front of the auditorium chatted informally with the subjects as they came in, calling attention to the notice on the board and to the pencils they would find together with the booklets. When all subjects were seated, the examiner mounted the platform, called for their attention and the test proper began.

We have said previously that the instructions were similar to those given in the individual test. Perhaps it is well in this connection, however, to be more specific and to "dot all the i's." While we feel that there can be no set formula, we advocate some such statement as the following to open the procedure:

"The test which you are about to take is rather an interesting one and I think you will enjoy it. All you have to do is to look at some slides which will be projected on the screen and write down what you see. Now the point about these slides is that they are nothing more or less than reproductions of ink blots. Probably all of you at one time or another have shaken your pen on a piece of paper, caused a blot of ink, and on folding the paper produced a weird splotch which may or may not have resembled something that you recognized.

Now these slides are nothing more than reproductions of ink blots formed in this way. Your task is simply to write down what these splotches remind you of, resemble, or might be. You will see each of these slides or blots for three minutes and you may write your answers at your own time. Is that understood? It may help you later in the test if you make a point of numbering your answers to each slide as you write them down."

After instructions about the nature of the ink blots, the booklets were described and explained. It was emphasized that a page should be turned each time the slides changed; that is, all answers to a given slide should be recorded on a separate page.

The ten slides were then shown in the usual order for three minutes. Between each slide we paused to be sure that all the pages had been turned. When the tenth slide had been shown for three minutes the lights in the auditorium were all put on, the examiner again mounted the platform and after a few informal remarks explained the next phase of the task.

INSTRUCTIONS FOR THE LOCATING OF RESPONSES

"Well, this is the first part of the experiment. Now we shall go on to the second. I'm sure you will have seen a lot of amusing and different things

DIAGRAM OF SLIDE USED TO EXPLAIN THE LOCATION OF RESPONSES

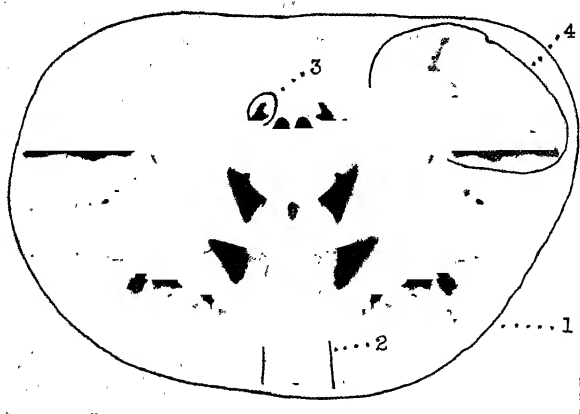


FIGURE I

in the various inkblots, but one of the important aspects of this test is the fact that I must know as accurately as possible just what it is you have seen and where it is you have seen it. In order that you can do this, you will find on each

page a little diagram representing the slide." At this point Slide I with various areas marked off on it was thrown on the screen and the examiner continued:

"Now perhaps some of you saw on this particular slide a butterfly, and then perhaps you also saw the legs of some person in the center here, and perhaps a boxing glove in this little protuberance here or a dog's head here on the side. (While speaking of these objects the examiner points to the areas referred to which are encircled by a dark line on the slide.) Your next task, therefore, is to number your own answers, if you forgot to do so before, and then with your pencil to draw a line around the area where you saw that particular object and attach to that area the number of the answer you are describing. For example, let us suppose you have seen just those four things which I mentioned. You would put a number 1 by 'a butterfly' draw a line all the way around the miniature ink blot and put a number 1 beside this line. If 'somebody's legs' was your second answer, you would number that 2, draw a careful pencil line around the area on the diagram and attach a number 2 to it. In other words you will do for all your own answers what has been done for these hypothetical answers on the screen."

INSTRUCTIONS FOR OBTAINING ADDED INFORMATION

After the instructions concerning the *recording of the location* of responses have been given, Slide VIII may be thrown on the screen and *added information concerning the responses* may be asked for. Our instructions at this point were something of this sort:

"Before you begin to mark off your answers, there is something else you have to do for me. You have to help me reconstruct as accurately as possible the kind of experiences you have been having or some of the characteristics of the things you saw. You might, for instance, have seen two bears or two animals here on the side. You might have seen two flags here in the center, or you might have called these same parts two cushions. This part here (pink and orange) might have reminded you of some kind of flower.

Some of you may have said, for example, that the bears looked as if they were climbing up, but it is also very possible that you did not put in that last bit of information. Now is your chance to do so if you want to. If you want to explain to me that the animals you saw looked as if they were stepping from one rock to another, you may add that information now. But perhaps you did *not* see them as if they were stepping. Fine! That is just as important. Perhaps they looked to you as if they were some kind of animal on a heraldic design and you may have already said so. In that case you will not need to give any more information.

Let us suppose that you not only saw cushions here but saw *blue satin* cushions. In this case you would again amplify your answer because it is important for me to know whether you got the impression of the satiny or silky feel of the cushion, and whether you were impressed by its blueness. Again this area may have reminded you of a flower because it was the color of the sweet peas in your back yard. If it was the color that attracted your attention

and made you think of those sweet peas, then add this information by writing in the word, 'color'."

After the instructions have been given and after any pertinent questions have been answered, the slides may be projected again in the usual order, each being shown for approximately two minutes. The word "approximately" is used here because it was easy for the examiner standing in front of the group to see when the subjects had finished this phase of their task. On some slides it was not necessary to wait for a full two minutes to elapse before going on to the next. During this period the lights in the room were on, allowing for accurate delineations of the areas, although the slides themselves were still clearly visible though perhaps not quite as brilliant as before.

Discussion of the Location of Responses in the Group Test

The location of responses by the subject, after full explanations and illustrations have been given, and after he has been allowed to ask questions, seems to us one of the most important features of the group method. It is impossible to score accurately without knowing the correct location of the area employed in the perception. Moreover, this second phase of the test gives us, in addition, further information about the subject and his ability to carry out instructions carefully and accurately which should be utilized to the full. Actually in this procedure we have something analogous to the graphic Rorschach recently described by Rochlin and Levine (4), a source of additional information over and above that derived from the responses per se.

It will be noticed in leafing through records from "normal" or unselected subjects that there is considerable variation in the accuracy with which one and the same location is indicated. Some individuals are content with careless lines, others seem to be much more concerned with a faithful delineation. Where as many as ten answers have been given to one card, we sometimes find a maze of pencil lines which are difficult to disentangle. In other cases with a similar number of answers we will have no difficulty for the subject has spontaneously resorted to the use of different colored leads, if he happens to have them, or to different kinds of lines in order to demarcate the areas clearly.

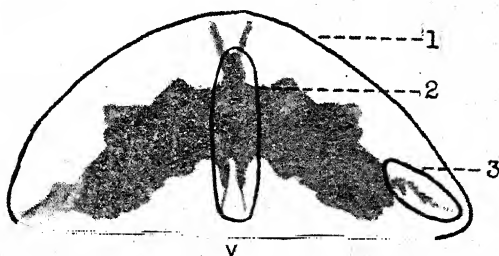
Among abnormal subjects, psychotics and psychopathic personalities, an even more interesting range of performance is found. Examples of some of the varied attempts found among abnormal subjects together with the more usual forms which the delineation takes are given in the following figures:

DIRECTIONS FOR ADMINISTRATION
 DELINEATION OF AREAS BY NORMAL SUBJECTS

37

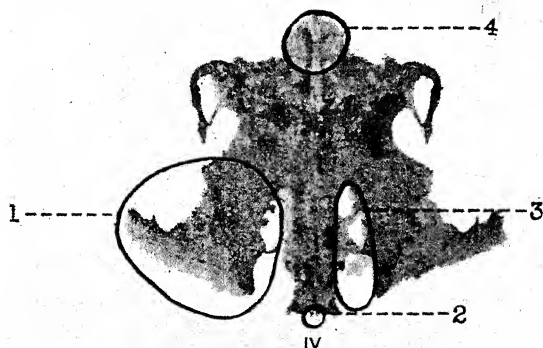
Responses

1. Butterfly
2. Man with bowler hat
3. A leg



Responses

1. Boots
2. Little feet
3. A profile in white
4. A flower at the top



Responses

1. Clowns
2. Scotties

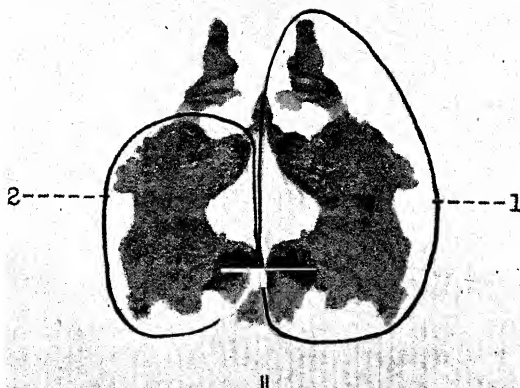
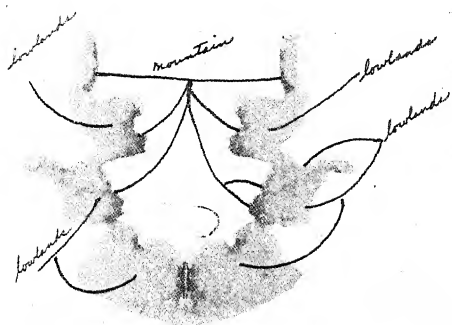


FIGURE II

LARGE SCALE RORSCHACH TECHNIQUES DELINEATION OF AREAS BY ABNORMAL SUBJECTS



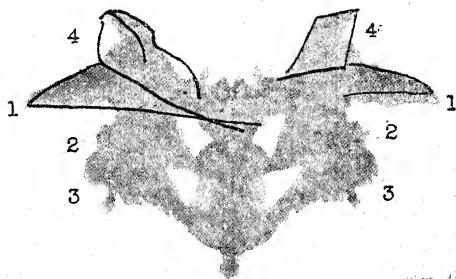
a.

Answer to Card VII

This appears slightly to resemble segments of a physical geography map showing mountains and lowlands.

Illustration of somewhat complicated demarcation.

Clinical diagnosis: Schizophrenia.



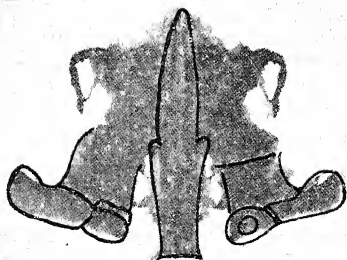
b.

Answers to Card I

1. Bat
2. Bell
3. Hour glass
4. Two dancers

Illustration of numbering without demarcating areas.

Clinical diagnosis: Psychosis with mental deficiency.



c.

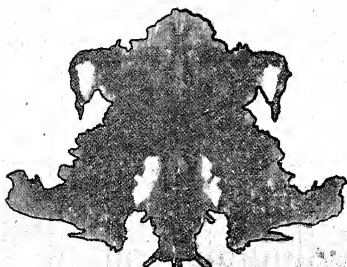
Answers to Card IV

Springfield 38 cartridge.

Men's boots kicking out.

Illustration of added details at variance with outline of blot which nonetheless enhance the concept.

Clinical diagnosis: Schizophrenia with paranoid trend.



d.

Answer to Card IV

Such as a thoracic picture.

Illustration of careful and painstaking delineation which is in no way necessary to the task in hand.

Clinical diagnosis: Schizophrenia.

FIGURE III

There is, for example, the ridiculously punctilious individual who outlines each little indentation of the blot, even for whole responses like bat or butterfly to card V, and as in the illustration the "thoracic picture" to card IV (see Figure III d). Then there is the individual who superimposes his impressions by drawing in lines as in the "Springfield 38" and the details added in the heel of the boot, when there is nothing in the blot to suggest these particular features (Figure III c). There is the individual who gives perfectly good answers (if not "popular" at least well-recognized as occurring frequently in average records), but who is unable to locate them at all, merely placing numbers by the side of the blot and making a few tentative and rambling lines over the surface of the diagram (Figure III b). There is also the individual who introduces many quite unhelpful lines and words onto his diagram, lines which are, shall we say, the graphic counterpart of his verbal answer. Just as his answer is both hesitant and unnecessarily verbose ("This appears slightly to resemble segments of a physical geography map showing mountains and lowlands") so his frequent repetition of the word "lowlands" on the diagram seems to illustrate the same trait (Figure III a).

We have included the clinical diagnoses with these particular cases, but it should not be assumed that all persons with a similar diagnosis would make identical drawings. In an unselected group, however, the appearance of this unusual method of locating responses has proved of value in screening.

Discussion of the Inquiry to Elicit Further Information Regarding the Determinants

We have utilized two types of booklets in regard to this phase of the test. One edition of the booklet contains the words, *Shape, Color, Movement, and Texture* as will be seen in Figure IV A. Where this edition is used the instructions are for the subject to put *the number of the answer under the headings which are pertinent*. For example, if "blue satin cushions" was his third answer to card VIII, a number 3 would have been put under *color, shape, and texture*.

In the alternative form of the booklet the diagram of the card is also given, but no statements are included in regard to the inquiry. When such booklets are used the subjects are asked to *amplify their answers in their own way* in order to give us as much information as possible about what it is they see. (Figure IV B.)

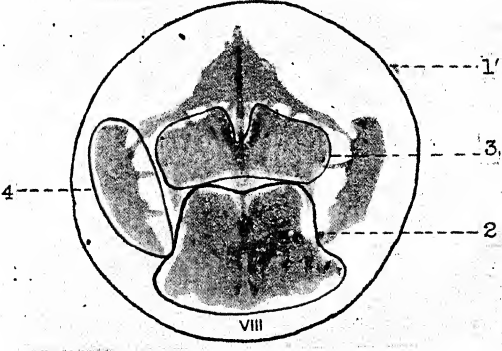
Sometimes this amplification involves merely the statement "color" or "blue" or "alive" or "walking" written by the side of the answer. Sometimes quite lengthy descriptions are added.

LARGE SCALE RORSCHACH TECHNIQUES

SAMPLE PAGE FROM BOOKLET CONTAINING SPECIFIC INQUIRY

This space is to help you describe your answers more fully. Put the number of your answer under any of these words if by so doing you can amplify it in the way just discussed. Add additional words if you need to use them.

Shape	Color	Movement	Texture
1	1		
2	2		
3	3		3
		4	



Answers

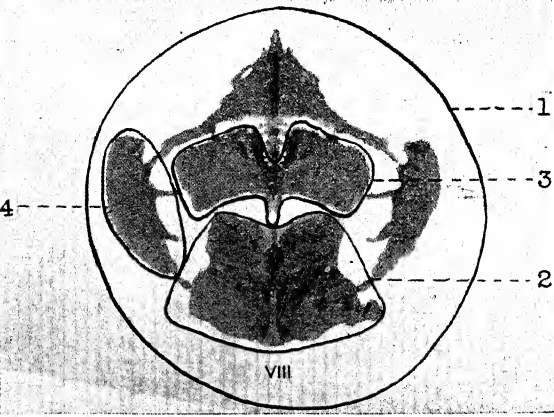
1. A coat of arms
2. A sweet pea.
3. Crossed flags.
4. Animals.

A

SAMPLE PAGE FROM BOOKLET ASKING FOR AMPLIFICATION OF ANSWERS

Amplification

1. The coat of arms is painted in several colors. Colored, pale pink and orange.
3. The flags look as if they were made out of silk. They are creased and are blue of course.
4. The animals are crawling up the sides. They are like pink rats.



Answer

1. A coat of arms.
2. A sweet pea.
3. Crossed flags.
4. Animals.

B

FIGURE IV. A AND B.

The final published form of the Booklet contains both these possibilities, so that the examiner may use whichever form of the inquiry he prefers, instructing the subjects accordingly.

The exact form which the inquiry should take or what kind of recording blanks should be used has recently been discussed by Hertz (2) and Sender (3). Our method which contains the use of specific determinants printed in the booklets (see Figure IV A) has been called "modified inquiry" by Sender, and the "specific factor method" by Hertz. The procedure which allowed the subject to amplify his own answers without these specific suggestions (Figure IV B) is referred to as the "free inquiry" by Hertz and the "minimum prodding method" by Sender and Klopfer.

From our own experience with both methods it would appear that each has its value. The best will depend to a large extent on the type of subjects who are taking the test, the amount of time which can be devoted to the study of each record and the reason for which a record is taken. Hertz has also found both methods useful as the following quotations show. On the one hand she finds:

"The technique of identifying the specific factors that determine responses by questions as to Form, Movement, Color and Shading, is reliably more successful than the Free Inquiry in all groups studied, substantiating this part of Harrower-Erickson's procedure. This procedure is easy for all subjects whether they have had previous experience with the test or not. For the more intelligent subjects, however, either procedure is adequate for accurate description of responses given."

On the other hand she states: "Although the results show that the Specific Factor method is a reliably better technique for eliciting necessary information concerning the responses given, where subjects are capable of expressing themselves in a Free Inquiry, the information gleaned is of more value than the more restricted enumeration of specific factors. No doubt use of the Free Inquiry should be restricted to the more intelligent subject or to certain subjects who are recalled for additional information."

Hertz's final conclusions, however, are in favor of the specific factor method which she includes in her *Directions for large scale application of the Rorschach method*. While the following instructions do not differ in essence from those which we used originally, they have been added to show how different examiners may need to reword the same information for use with any particular group of subjects:

"While you are locating your responses, we want you to fill in the narrow right hand margin headed 'Factors' by indicating which of these four factors, *Form, Movement, Color, Shading*, was influential in suggesting the responses to you. Ask yourself, was it Form of the blot, or the Movement in it, or the Color or the Shading or a combination of two or more of these? You may use the symbols F, M, C, and Sh in giving these factors. Write these symbols in the last column opposite your responses, numbering them to correspond to the number of the response to which they refer.

Look at the example. In the Factor column, these symbols are indicated and numbered to show the responses to which they refer.

Where two or more of these factors were involved in the response they are indicated in order of importance.

Thus in the example, for Response 2, *Color and Form* determined the answer. C and F are therefore indicated which means that color was more influential and form too helped in the determination of the response.

Write these words at the top of your page so that you will remember them, underlining the F, M, C, and Sh, the symbols.

If you care to add any descriptive words or remarks you may do so in the blank space which is provided for the purpose.

If you care to add any response or make any comments you may do so in the empty space.

Now if you understand your two-fold task, we will show the blots to you again, one by one. Start locating your responses on the outlines and indicate in the last column by letters F, M, C, and Sh, or any two or more of these, what determined your answers." (2)

Sender's conclusions favor the use of the minimum prodding technique:

"Thus the results of this study cannot be assumed to indicate that the Modified Inquiry Method would not be adequate for use with highly selective groups by examiners who have had wide experience with the Rorschach Method. However, this study *does* indicate that in applying the Group Method to heterogeneous groups, the Minimum Prodding Technique is more efficient because it elicits no misleading information but calls forth descriptive and informative explanations and elaborations which are helpful in the scoring of the records, contribute toward a more accurate qualitative interpretation, reduce the time for scoring, and make possible the use of less experienced workers for scoring of group records." (3)

Other methods of eliciting information in order that records may be more accurately scored may be briefly mentioned. Hertzman (5) has asked for amplification of responses, without giving examples to illustrate the form which such an amplification might take. This has been referred to as the "minimal inquiry." Lindner and Chapman (6) have suggested a "tutorial inquiry," which is, in effect an individual inquiry

to be given after the records have been taken by the group procedure. As we reported originally (7), utilization of an individual inquiry is quite satisfactory, provided the group under consideration is not too large. We have also advocated that an individual inquiry should be used by every examiner, for at least the first twenty records which he takes under group conditions, regardless of what type of group inquiry he is using.

Buckle and Cook (8) have recently reported that they rely solely on the location of responses for information in the inquiry and do not include the phase which deals with the determinants. This raises the question of when a record can be taken at its face value and scored only in terms of the original and spontaneously recorded responses.

After considerable experience with various and varied groups we have come to the conclusion that for extremely rapid *screening purposes*, for spotting of grossly abnormal personalities, and only the grossly abnormal, an inquiry is not imperative.

In dealing with college students or with equivalent groups, however, we have made it a practice always to include some form of inquiry. There are unquestionably debatable points in scoring which *can* be solved when the individual's additional remarks are taken into account. We found also that the failure to recognize and acknowledge an obvious component in the response was in itself indicative of certain personality characteristics.

As a larger body of material from students was accumulated, it became clear that failure to understand the instructions for the inquiry in the time allowed was an extremely rare occurrence. If an individual fails in this part of the task it provides important information about him. In the same way we gain an insight into the behavior of the individual who takes the inquiry so seriously and labors over it with such pains that he asks to take the record home in order to be able to do the job more efficiently, or the individual who asks permission to stay on after the other students have left in order to be quite sure he has done everything he should.

Then, much can be gained from a study of *how* each student records the information asked for in the inquiry. Many are satisfied to follow the specific suggestions given, namely to put the number of the answer under the various headings where it belongs, or to add a brief amplification, but others *without any encouragement* spontaneously record more elaborate additions to their original answers.

In contrast to the *college age* group we have felt that an inquiry is counterindicated among certain other subjects. We have not used this

phase of the inquiry with high school students under 16 years of age, nor with groups of predominantly low intelligence, nor with groups where the span of attention was more circumscribed than normal as, for example, certain types of psychotic patients. Where groups contain varied intelligence levels (even if amongst them are those of subnormal intelligence) *an inquiry may sharpen the difference between some of the subjects*, namely, between those who can and those who cannot follow the instructions. An inquiry is, therefore, of value if a blind diagnosis is to be made in which we must include as much information as possible about the status, intellectual and emotional, of the subject.

An interesting suggestion by Ross may be included at this point. In a short report (9) he advocated the use of half scores when for some reason or other the inquiry has not yielded sufficient information concerning the proper determinant by which a response should be scored.

"In the application of the Rorschach group test to a military purpose, where it has been desirable to obtain scores which could be treated in a statistical manner, the difficulty has been encountered that many of the subjects have failed to supply information adequate for confident scoring of the determinants. This difficulty occurred whether or not booklets were used with headings for the designation of the determinants. In many cases the subjects omitted to acknowledge a determinant which is known commonly to play a part in the particular response in question, e.g., the use of shading in an animal skin for IV or VI or the presence of movement in the side animals in VIII. When individual inquiries have been done on some of these subjects, it has been found that in some cases the subject was taking the usual determinant so much for granted that he forgot to mention it; but in other cases it was found that the subject would not recognize the determinant in question. With individual inquiries out of the question in the examination of large groups, there is the danger of scoring these responses in one of two arbitrary fashions: either according to the most commonly used determinant for that response or according to an assumption that responses not elaborated further are F responses.

"To reduce this dilemma to a consistent quantitative figure which will give some benefit of doubt to the inarticulate subject and yet penalize him for failure to elaborate more adequately, we have tried out a system of half scores. Where there is reasonable doubt between an F and an FM, an F and an Fc, or an Fc and a cF, etc., one-half response is scored for each of these. This half point system has also been extended to additional responses, secondary determinants, tendencies to another determinant and to a few other scoring items. The

latter include F/C, scored as one-half FC, C/F as one-half CF, restricted movement or poses, scoring (M) or (FM) as one-half M or one-half FM. In the case of secondaries, or F/Cs (M)s, etc., within additional responses, the scores may be reduced to $\frac{1}{4}$ or even $\frac{1}{8}$. The system of one-half scores has been applied before to some of the responses excluding those involving percentage estimation but we have not been aware of its application to all additional and to these special cases. There seems considerable merit in using it in this way insofar as the subjects who present additional responses during the inquiry should receive recognition of these in any statistical treatment of their results, including their total number of responses. Similarly, should the secondary features receive such cognizance although not to the full weight of primary locations and determinants.

"These modifications in group scoring procedure are submitted for consideration as a means of reducing secondary and doubtful scores to a quantitative expression which will aid in the statistical treatment of the data. It is recognized that something is lost in crowding these various nuances into the simplicity of half scores but it is believed at the same time that validity is added to the statistically treatable scores which are derived. This should facilitate the validation of the method for large scale screening purposes."

REFERENCES

1. Personal communication.
2. Hertz, Marguerite. Modification of the Rorschach inkblot test for large scale application. *J. Orthopsy.*, 1943, 13, no. 2, 191-211.
3. Sender, Sadie. The influence of variations in the Rorschach group method administration upon the scorability of the records. *Rorschach Res. Exch.*, 1943, 7: 54-69.
4. Rochlin, Gregory and Levine, Kate. The graphic Rorschach test. *Arch. Neurol. Psychiat.*, 1942, 47: 438-448.
5. Hertzman, Max. Recent research on the group Rorschach test. *Rorschach Res. Exch.*, 1943, 7: 1-6.
6. Lindner, R. M. and Chapman, K. An eclectic group method. *Rorschach Res. Exch.*, 1942, 6: 139-146.
7. Harrower-Erickson, M. R. and Steiner, M. E. Modification of the Rorschach method for use as a group test. *Rorschach Res. Exch.*, 1941, 5: 130-144. Also in: *J. Genet. Psychol.*, 1943, 62: 119-133.
8. Buckle, D. F. and Cook, P. H. Group Rorschach method: Technique. *Rorschach Res. Exch.*, 1943, 7: 159 ff.
9. Ross, W. D. A contribution to the objectification of group Rorschach scoring. *Rorschach Res. Exch.*, 1943, 7: 70.

SECTION III

Scoring Group Rorschach Records

WE NOTED in the introduction that we would make no attempt to explain the scoring principles involved in the Rorschach. In the examples which follow in this chapter, therefore, we are not attempting to show why responses are scored in this way but have only collected together under the headings of the various determinants responses which are clearly akin to those obtained in the individual method.

The procedure which we advocate in scoring is to first read through the whole booklet of responses and then to score these responses slide by slide *without reference to any additional information* that might be given by the subject himself. When this is done, the inquiry flap for each answer may be turned, and a comparison made between the information given by the subject with the scoring we have arrived at by direct inspection of the answers. As we have previously stated, we gave a group of 40 of our 110 subjects an "individual inquiry" on the answers obtained in the group test, and feel it is well for every examiner to do this for some 20 cases in order to see for himself how much may be taken at its face value in the written records.

Perhaps the best way to illustrate what one is confronted with in scoring is to quote from some of the actual records. The ease with which answers can be scored varies considerably. There are, for instance, those answers which are extremely explicitly stated by the subject in the spontaneous recording. On the other hand there are answers which have to be taken at their face value—those to which conclusions have to be reached without additional evidence. There are also responses which the subject cannot or does not bother to amplify; for example, "cat" (to Card I) with the whole area delineated, which means, as a matter of fact, a cat's face.

In the following pages we have taken examples to illustrate the kind of responses which we scored under various determinants developed by Klopfer from Rorschach's original list.

a. M. In general it must be said that M is not difficult to determine. Almost all human figure responses include explicit references to movement or posture. For example:

Card III

"Two little men in old-fashioned evening clothes dancing or whirling around

the floor opposite each other." (In this case both movement and color were indicated by the subject.)

"Two servants carrying a container full of fuel for the fire in the background." (Our scoring with *M* and an additional *CF* on this answer was verified in the individual inquiry.)

Card II

"An oriental dance; two masked, robed figures clapping one hand and stamping their feet in unison." (Both movement and color were indicated by the subject and in the individual inquiry the color was revealed as relating to the caps. Our scoring on the basis of the Group-test alone had been *M* with an additional *FC*.)

Again on *II* we have such answers as: "Two witches doing a pat-a-cake dance around the fire." (Fire, lower red. An *M*, *CF* scoring was indicated by the subject and was verified in the individual inquiry.)

b. FM. Examples of *FM* are as follows:

"A bat flying through the air."

"A bat gasping for breath."

"A bat about to stretch its wings."

"A bat poised for flight."

Innumerable other examples could be given:

"Worms crawling" (in *X*).

"A couple of mice clinging to part of an ancient skeleton" (*VIII*).

"Two little animals trying to crawl on to a bough" (*VIII*).

Less explicit but also verifiable on individual inquiry are such answers as "chameleons" with movement and color marked, the Individual inquiry revealing that the animals were "climbing up the side."

c. m. Movement of inanimate objects, expressions, and "atmospheric impressions" were all found amongst our records. We scored as *m* or additional *m* such answers as:

Card VI

"Impression one might get of a rocket ship taking off from landing."

Card IV

"Torpedo leaving gun over black oily water."

Card IX

"Circular motion."

Card I

"Some threatening evil spirit."

Card V

"A strong but untrustworthy man's face" (*dé*).

d. k. Good examples of this type of response have already been given. The repeated reference to *x*-rays called for a scoring of this kind. Similarly the well-known geographical answers, topographical and relief maps, were frequently found.

e. K. The majority of these answers were found in the cards *IX* and *VII*. They included clouds of all varieties, colored and uncolored, and were usually recorded by the subjects themselves as having been prompted by texture, or by texture and color.

Card IX

"Clouds in a sunset."

"Something poured into odd shaped bowls, comes out at the other end and gives off a colored vapor." (Movement, color, texture recorded.)

"Some sort of water jet with water spouting up in the middle."

"A volcano, it seems to be bubbling and boiling all around and the steam is just beginning to gush up. Suggests fire in its color. The center part seems quite thick." (Movement, color, and texture were all recorded.)

f. FK. As will be seen in Figure IV, Section II, we did not include "vista" amongst the words on the flap in the booklet. It seemed to us, after the first trial booklet had been in use that this was unnecessary, for vista responses were as a rule stated explicitly. We record a few examples:

Card II

"Corridor leading to a throne with a canopy over the top" (a *drs* response).

Card III

"The red section in the middle resembles a corridor leading down to a door at the end."

Card VII

"I can practically see a long steamship passing through a very narrow canal" (a *d* response).

(All these responses were given by the same subject.)

The following examples are taken from another record:

Card IV

"A scene taken from a plane showing houses, hills, churches, ruins, lakes."

Card VI

"A tower built on a hill." (This answer, given again in the individual record and investigated in the inquiry, confirmed the expectation of the vista element.)

g. F. This category can be illustrated by such *de* answers as: "a face," "a man's profile," "an Indian's head," "a man's leg" and many other human details. There are also the "bat" responses where move-

ment is explicitly denied or shape indicated as the only determinant, and many other objects which in the opinion of both the subject and the examiner are determined by shape alone.

h. Fc and c. Perhaps the categories concerning which there is most likelihood of confusion are the *Fc* and *c* scores. In the author's experience, however, these frequently present difficulties in Individual tests also. Some out and out *c* responses are not hard to determine, for example: "pelt," "hide," "skin" (to Cards *VI* and *IV* with texture alone recorded). Or again, "an open sore" (a *di* in *VI*), "a fungus growth" or "sponge" (Card *I*) or "dress material, some sort of soft goods" (Card *VIII*).

Nor are certain *Fc* responses difficult: "A thick twisted old Chinese pine tree" (to Card *IV*, texture and shape), "tabby cat's paw," "a lamb's tail," and "a turtle with its neck out and feathers around it."

However, "a leopard skin hung on the wall with some kind of totem pole in the middle" was scored as *W Fc* on the basis of the group-test information, but the individual inquiry in this case led us to re-score this in terms of two separate responses, *c* and *Fc*. A number of minor corrections of this kind could be referred to. Perhaps we can epitomize this by saying that while there seems to be no difficulty in discovering if shading was utilized, the weight that should be given to it is more difficult to assess in some cases in the Group method.

i. C'. The scoring of *C'* caused relatively few problems. Many subjects spontaneously utilized the word "color" on the inquiry flap, putting in brackets "black" in order to convey their impressions. For example:

Card I

"German imperial emblem" (marked for both movement and "black").

Card IV

"A black bearskin rug."

Card V

"A black bat."

Card VII

"A bright image between the mountains." (This was a white space response and was scored as "color" by the subject.)

There are also responses where "black" is not recorded but can easily be deduced as for example: "a cloud of smoke in the sky." Color is not recorded by the subject in regard to this answer but the individual inquiry confirmed our suspicions that there was a *C'* element involved. Also scorable as *C'* are such answers as: "a central line and black and gray splash."

j. FC. While *CF*'s were probably one of the easiest determinants to score accurately in the Group method, *FC*'s presented at first somewhat of a problem. We hesitated to score an answer *FC* in the first 40 records taken by the Group method until Individual inquiry had re-inforced our original expectations. We soon found, however, that frequently the record in its entirety gave a clue to an answer which in itself might have been questionable. For example, in Card *II* Subject *RU* responds with "butterfly," giving the determinant as color. How is this to be scored? The answers of this subject to *VIII*, *IX*, and *X* give us useful information, for in these she shows herself capable of genuine *FC*'s which can be distinguished from her *CF*'s. Her answer to *VIII* is, for example, "a bowl with a plant in it, the two animals being a decorative part of the bowl" (*W*). In her opinion color was the most important determinant, but the form element is plainly visible. In the same way in *IX* and *X* she delineates areas as "a cactus leaf" and "a bloom" (the yellow in *X*). These same answers when repeated in the Individual records gave unmistakable evidence of the utilization of form.

There is no reason, therefore, to doubt that the form of the red butterfly was not accurately seen in *II*, thereby justifying an *FC* score. Neither is there any reason to suppose that *FC* is not the appropriate scoring for "two small caterpillars" (in *X*), nor for "a very majestic pine tree" (in *VIII*), "butterfly" (in the lower portion of *VIII*), and such answers as "the cross section of a red tulip upside-down" (in *X*), "lobsters" (in *IX*), when color is claimed as significant by the subject.

k. CF. There were certainly no dearth of *CF* responses in our records. Here are some of the many examples:

Card II

"Red at the bottom looks like the disintegration of a comet."

"Coals in a lighted fire."

"Fire starting at the bottom."

"Picture of a bomb explosion."

Card VIII

"A forest fire."

"Lower part looks like the inside of a beef steak done rare."

"The colors remind me of the diagrams in biology of the circulatory system."

"A map, colors not shape."

Card IX

"Flames in a fireplace."

"Clouds in a sunset."

"Crude oil burning."

"Colorful chemical experiment."

"Surrealist art."

Card X

"An afghan."

"A colorful rock garden."

"A beautiful garden in Japan."

For all these responses the subjects themselves recorded the importance of color.

I. C. Color naming, color symbolism, and color comments also featured in the records.

Card IX

"Orange, then green with pinkish mass at the bottom."

Card II

"Two headless men kneeling before an altar, giving praise to some phenomenon, the color of which is red."

Color comment.

Card IX

"Something unpleasant; I don't like orange."

Card II

"Combination of two colors I don't like. I don't know why, though."

Card VIII

"The shade of blue and rose gives me a pleasant feeling. Reminds me of spring."

Color and Shading Shock

How will color and shading shock manifest themselves under the new conditions? At first sight it might seem that these important indices would be lost in the new procedure. The following examples, however, will serve to show that, far from being obscured by the new method, they stand out as clearly as before.

1. *Failure on colored and shaded cards*

Example: Nothing written on page, or "This does not remind me of anything."

2. *Delay before answering*

Example: "After the longest time I decided this might be a rug" (response to slide VI)

3. *Color comment preceding response*

Example: "Red, black and white" (on Slide II) "Blue, pink and orange" (on slide VIII)

4. Comment and no response

Example: 1. "There are two similar shaped blots on each side with one red blot joining them below. And a red blot above each side at the top. At the top the black blotches go forward to a point" (Slide II)

2. "Central gray line and gray splash" (Slide VI)

5. Unjustified anatomical and geographical answers

Example: "Organs" (response to VIII, IX, and X). "Map of England" (response to VIII)

6. Senseless repetition

Example: "The spinal cavity of a fish, the spinal cavity of a cricket, the spinal cavity of a crawfish, the spinal cavity of a lobster" (response to VIII)

7. False starts

Example: Sentences begun and then crossed out in Slide II, occurring nowhere else in the record.

8. Noticeably fewer answers on certain cards

Example: 1. Four or five answers to Card I to be followed by only one answer to Card II.

2. Three or four answers for each card up to Card VIII with noticeably fewer answers on the last three cards.

3. Several answers on Cards I to V; only one answer on Card VI.

The number of answers which may be expected from any given card in percentage terms will be seen in Part II, Section XI. Table VI. Noticeable deviations from the figures found in these Tables will therefore be an indication of a disturbance on the card in question.

While these examples of color and shading shock which we have listed are in all probability not the only ones, they do show that in the group method one is certainly not without clear indications of the type of disturbance usually referred to in this way.

PART II

SECTION I

Discussion of Research Methods

THE TASK of evaluating over eight thousand responses from the threefold angle of their location, determinants, and content was quite a formidable one! Consequently the technique which we found to be the simplest and most likely to avoid pitfalls may be briefly described.

After all the records had been scored and tabulated in the usual way; that is, when the psychograms had been made, and, in the case of the college age group, when reports concerning the particular student in question had been written, we ceased to be interested in any single

TYPE OF CHART USED TO RECORD THE RESPONSES UNDER THEIR SPECIFIC LOCATIONS AND WITH THE DETERMINANTS

Content	W	D1	D2	d1	d3	Dr	S
Head of rabbit					F		
Bat	F, F, F, F, F, F, F, F, F, F, F, F, F, F, F, FM, FM, FM, FM, FM, FM, FM, FM, FM, FM, FM						
Butterfly	F, F, F, F, F, FM, FM, FM, FM						
Bird	F, F, F, F, FM, FM, FM, FM, FM, FM						
Man			M, M, M, M, M, M, M				
Skinned rabbit	cF, cF, cF						
Forceps				F, F, F			
Mountains	FK, FK					FK	
Head of person (with beard)		F, F, F, Fc, Fc, Fc, Fc					

individual's performance per se and became interested only in the *card by card* performance of the group to which he belonged.

For example, the 632 answers to Card I given by the college age group were recorded on a single large chart. Each response was listed under the heading *content* and its main determinant was placed *in the column for the specific location* in which it occurred. We used large charts of the kind indicated on page 53. Since we were dealing with 8 groups (the college age subjects were divided into 5 separate units) we had 80 such charts, one for each card. The responses were read off, record by record, just in the order in which they were given, by one investigator, and recorded on the chart by the other.

Thus as can be seen on page 53 "head of a rabbit" seen in area d3 was scored as an F on the record, and so recorded on the chart. "Bat," "butterfly" and "bird" were all given by many subjects. The location of these responses was always the same; they involved the whole blot. But the determinants needed to score them were sometimes different, an F in some cases, an FM in others; consequently the different determinants were recorded under the W location.

When computing the graphs and tables for the locations which are presented in the following pages, we had only to add up all items in any given column W, D1, d1 and so on. In computing the graphs for the determinants the whole page was scanned for the determinant in question. These figures were then expressed in percentages of the total number of answers to that card.

SECTION II

Diagrams of Areas Into Which the Rorschach Inkblots Have Been Divided

THE ILLUSTRATIONS in this section are designed to show at a glance the areas into which each of the 10 inkblots has been divided. Verbal descriptions such as "the central part of the lower left protuberance" may be quite accurate, but are apt to be confusing to persons not well acquainted with the blots. Moreover, some areas defy verbal description. When studying the accompanying graphs, therefore, the reader can refer back quickly and easily to these diagrams and refresh his memory. Or, being interested, let us say, in some response in a record which he has obtained himself under group conditions, he can consult these diagrams, find the number of the area in question, and then refer to the graph to see with what frequency such an area occurs as the location of a response.

We have used as our frame of reference in making these diagrams the areas outlined by Klopfer in the Rorschach Research Exchange (1) and more recently in his book (2). We have, however, made a few changes and, where necessary, have added additional areas. That is, we have taken Klopfer's series of *D*'s and *d*'s, and designated, with the number following that with which Klopfer's series terminated, any area with a frequency higher than, or equal to the lowest in Klopfer's series. For example, in Card I, Klopfer's *D* 3 was utilized as the location in only .6% of the responses. Other areas, however, which we designated as D7, D8, D9, D10, and D11, were used in .6%, 1.2%, .6%, .9%, and 3.3% of the cases respectively. We followed this same procedure for all cards, and for *d* responses as well.

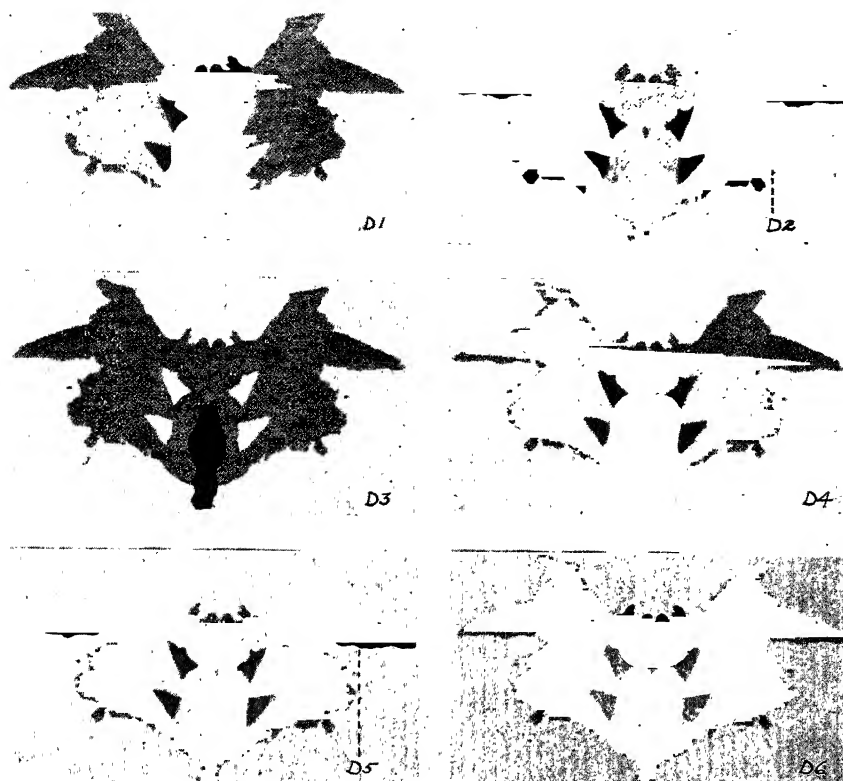
Since it is sometimes difficult to determine the exact location used, a dotted line has been added in some cases to indicate the additional extension which was occasionally included in the area in question. That this occurs in individual records as well as in those taken by the group procedure may be seen in Klopfer's statement. "Very few subjects delineate their areas, particularly in the achromatic cards, so sharply that the examiner can always be sure of the area with which the subject is concerned." (2)

There are, however, one or two questions which it seems to us are not taken care of in Klopfer's convenient system. For example, there is the matter of treating as perceptually equivalent, responses which

involve both halves of the blot and those which involve only one half. In card VII, for instance, Klopfer's D1 is "the entire bottom portion, sometimes each half separate"; or again, in Card VI, D1 is the "entire lower portion, animal skin, or half of the lower portion, kings head." It has seemed misleading to record both of these as D1 in that there is no similarity whatsoever between experiences of the larger area when seen as "a skin," and the smaller, half area, when seen as a "kings head." In this particular instance we have designated the entire lower portion as a *W'*, in contradistinction to *D1* which we reserved for the one half of the same area. Klopfer's policy in regard to this however, is not entirely consistent for in Card III when two human figures are seen, they are scored as *W'*, and when only one figure is seen it is scored as *D8*. Similarly in Card II, two dogs or bears are scored as a *W'*, one dog or bear is *D3*. We feel that the latter procedure is preferable, and have used it wherever possible.

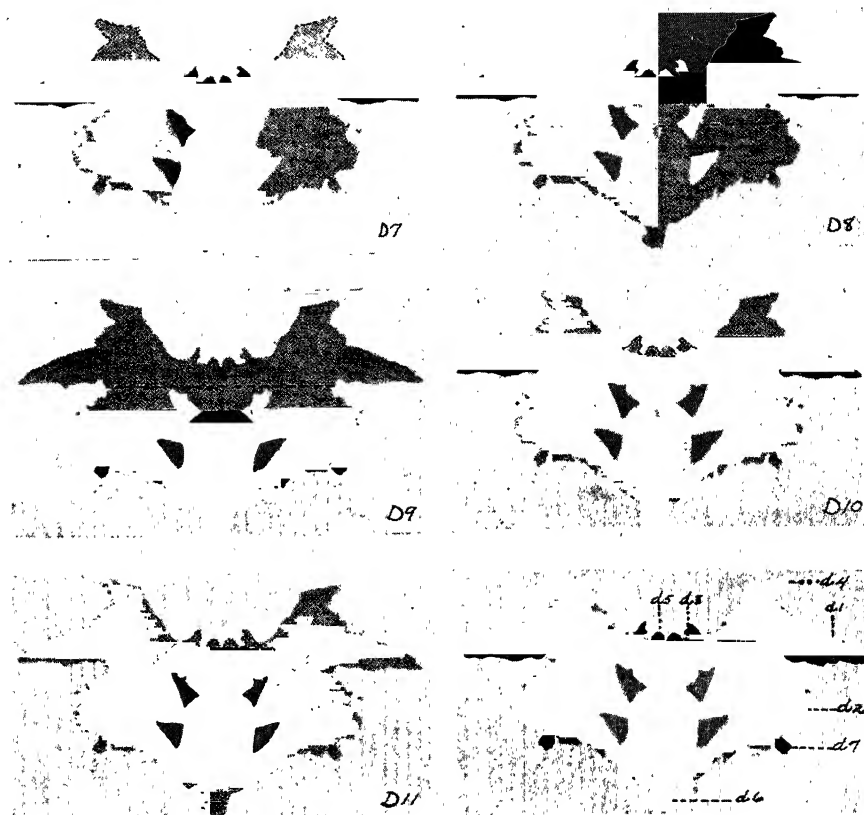
REFERENCES

1. Klopfer, Bruno, et. al. The technique of Rorschach scoring and tabulation. *Rorschach Res. Exch.*, 1940, 4: 75-83.
2. Klopfer, Bruno and Kelley, D. M. *The Rorschach technique*. New York, World Book Co., 1942, viii+436 pp.

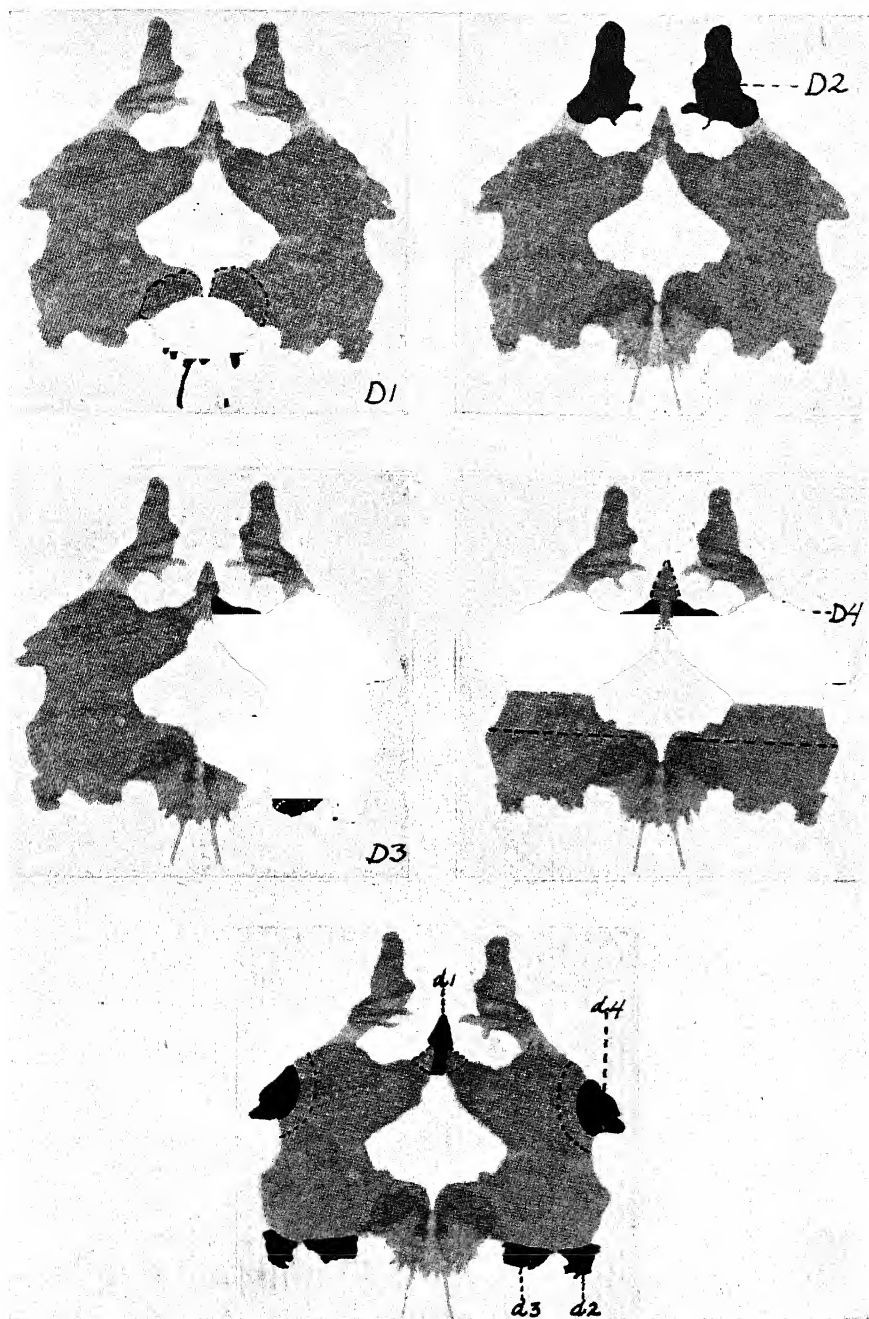


CARD I

Card I.—All of Klopfer's large D's and small d's were used here, but D7, D8, D9, D10 and D11 were added. D11 was virtually always used in combination with S.

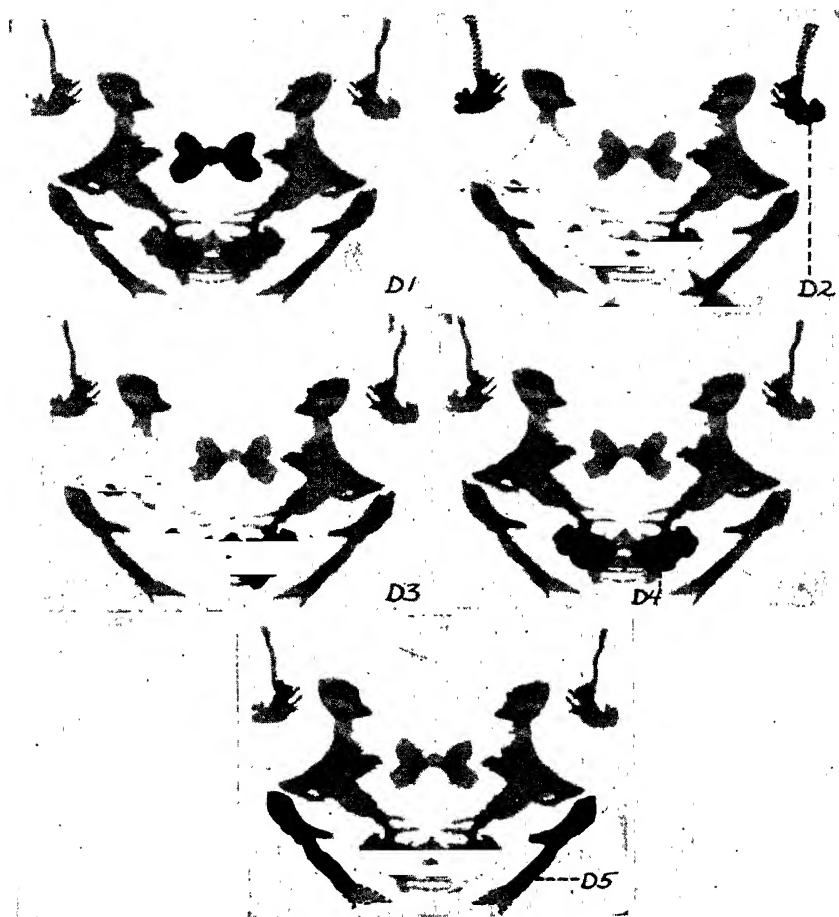


CARD I (Continued)



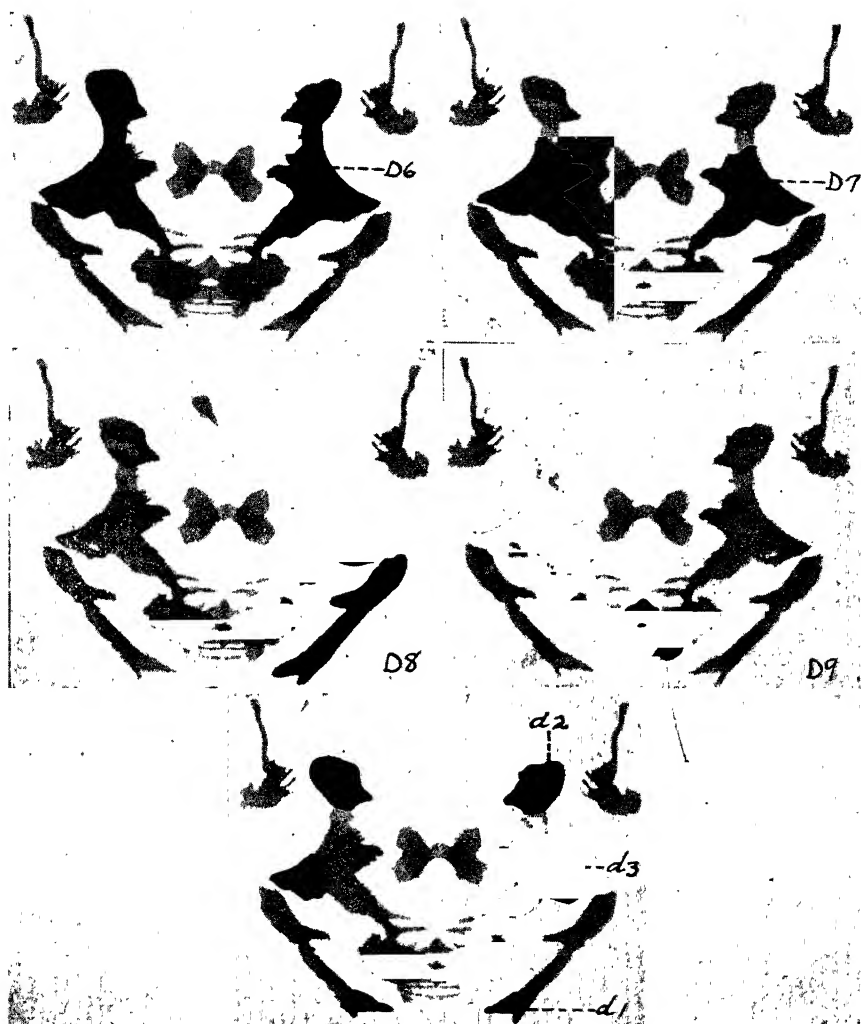
CARD II

Card II.—All of Klopfer's areas were used. The two black figures (dogs) were scored W'.

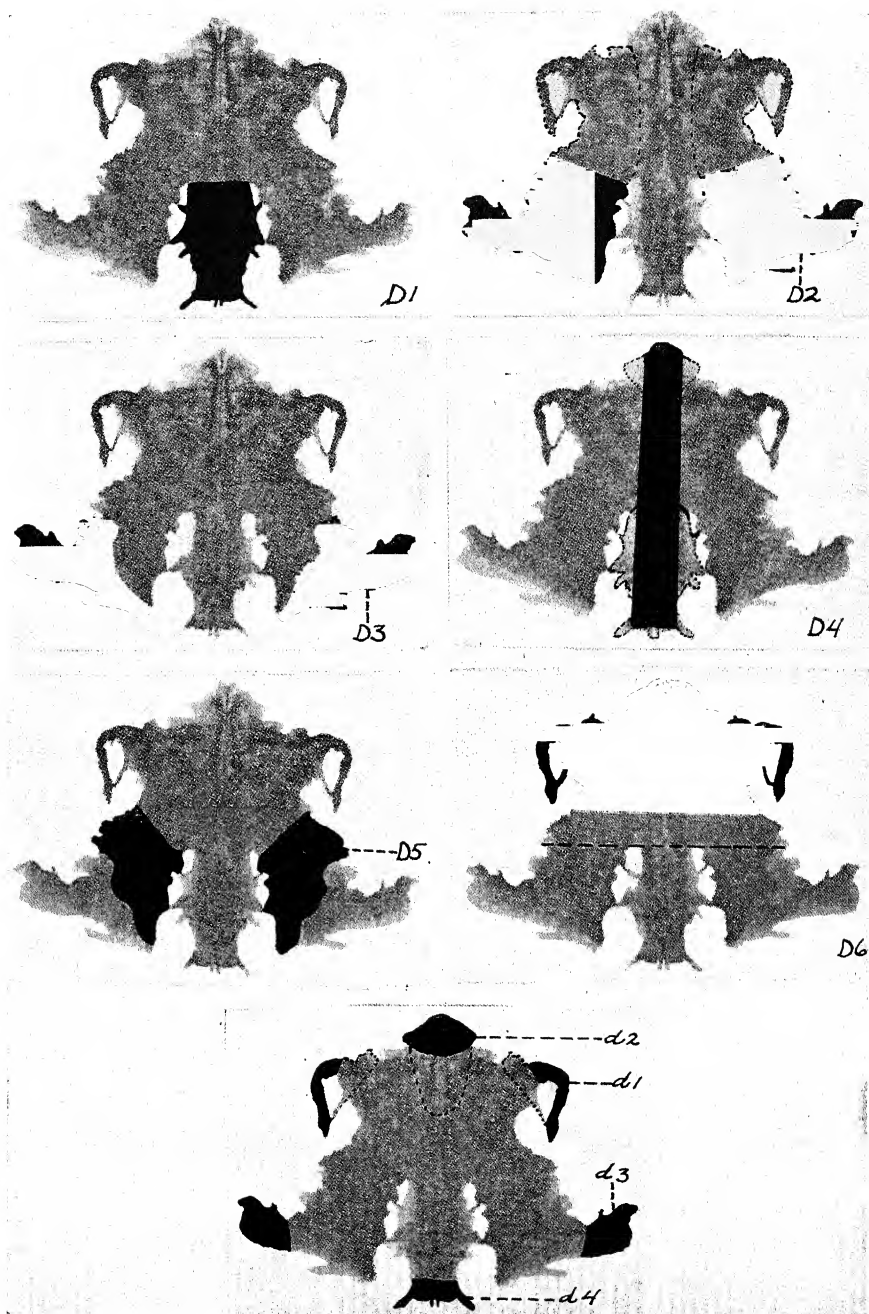


CARD III

Card III.—Klopfer's areas were used, and the two human figures in III were scored W'.



CARD III (Continued)



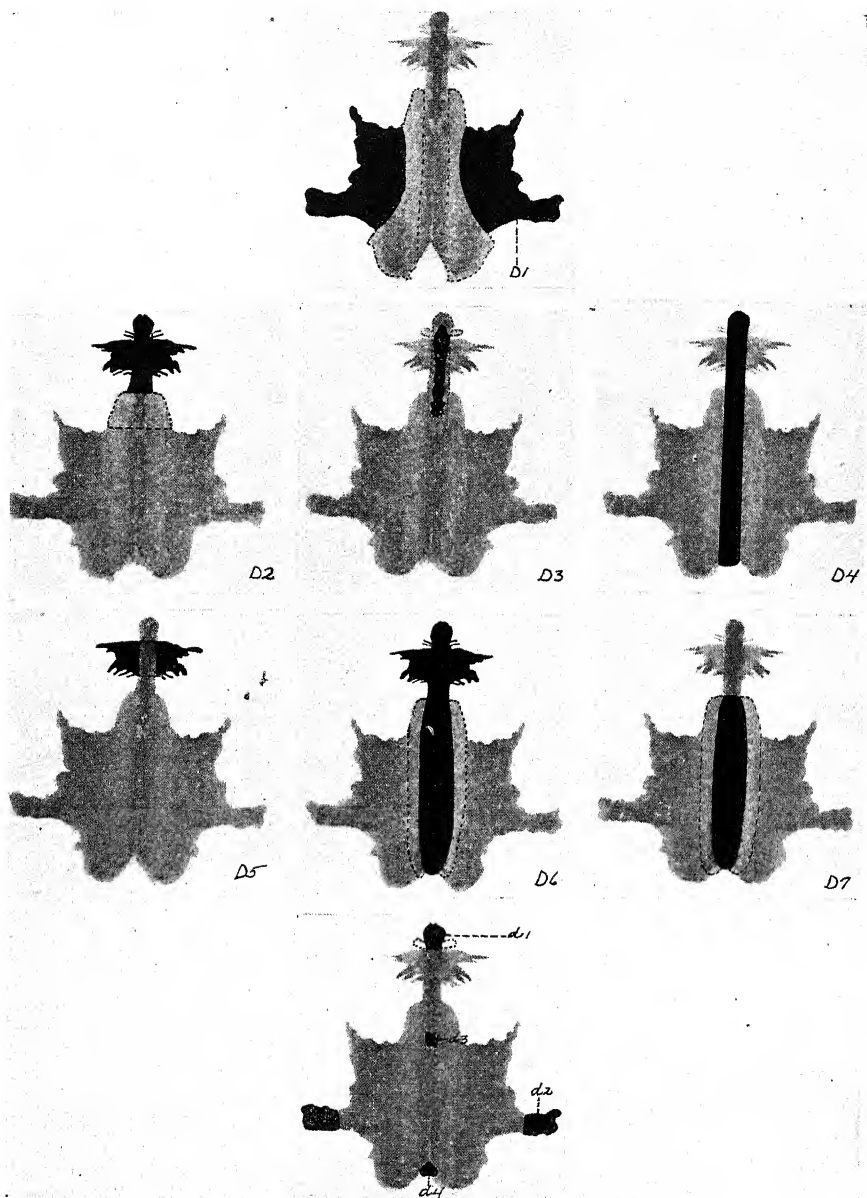
CARD IV

Card IV.—All of Klopfer's areas were used here. In addition D6, the upper half of the blot was added.



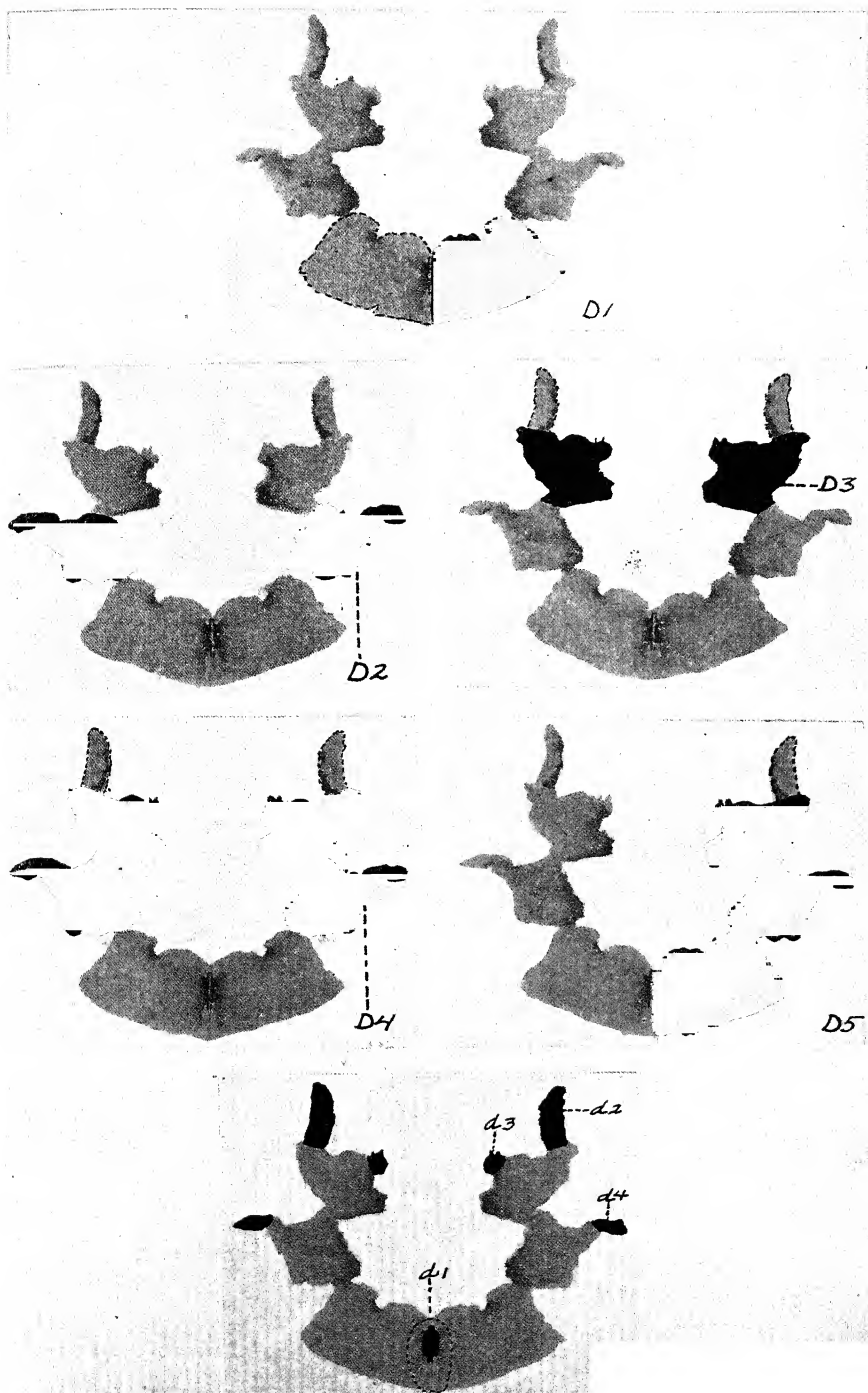
CARD V

Card V.—Klopfer's areas were used and none were added.



CARD VI

Card VI.—The lower half of this blot was scored W' and D1 was reserved for the side portions. D6 and D7 were added.



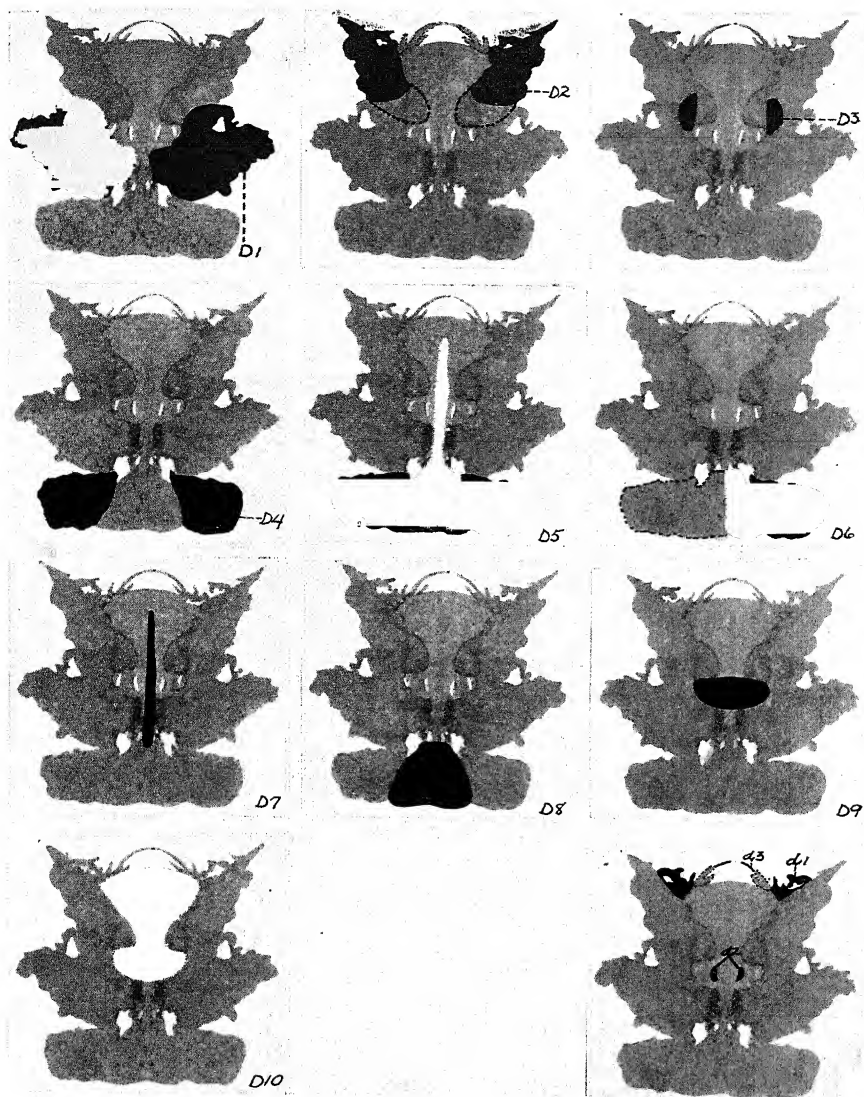
CARD VII

Card VII.—Although one half of this blot was seldom used it was called D5 rather than Dr. Small d4 was added.



CARD VIII

Card VIII.—"The top gray portion" when taken alone was called D3 and when this was used in combination with other areas we indicated it in the following way: D3+D4+D5. Since we were unable to separate the white portion from the "rib-like figure in the upper center," this small white area was included in D5. Small d2 was added.

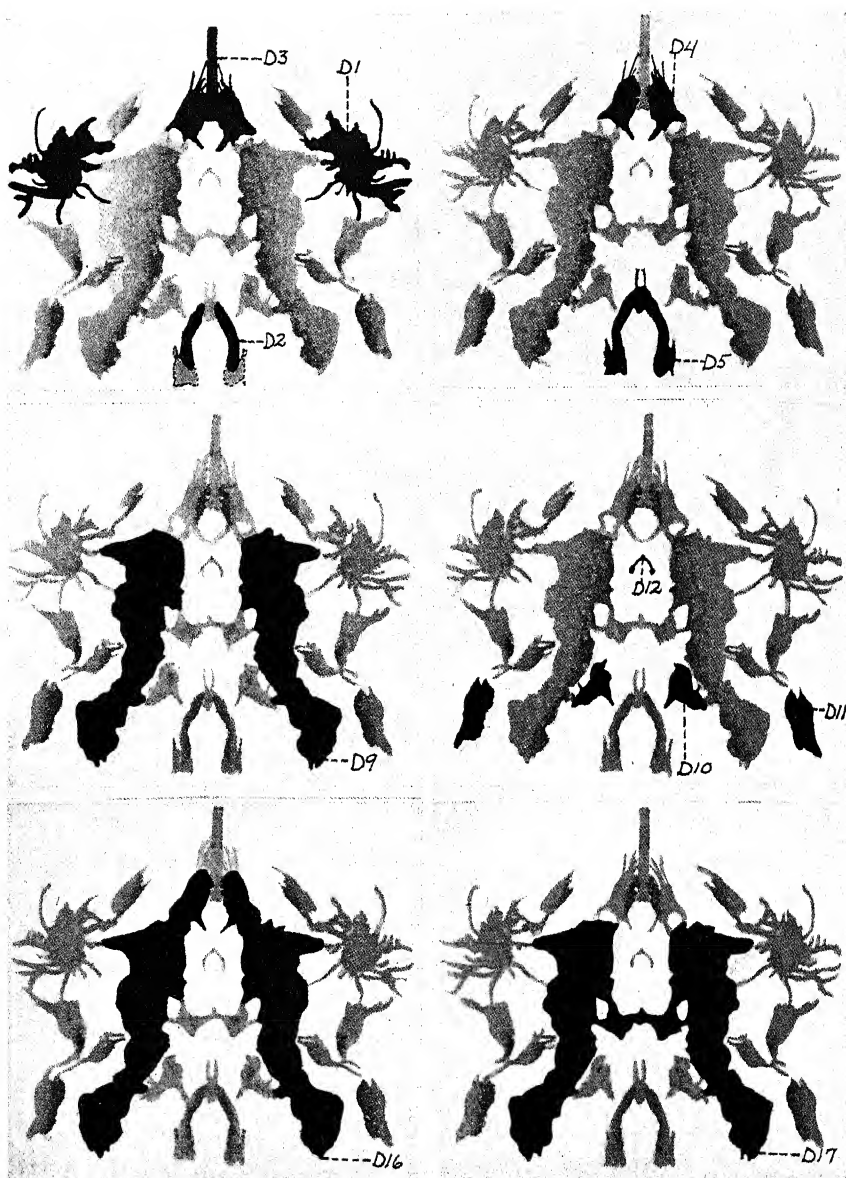


CARD IX

Card IX.—Our areas in this follow Klopfer's scoring in the Rorschach Research Exchange. (1) where 8 large D's were listed. The area "center portion between lateral greens" was not mentioned here and consequently we added it as D9. In Klopfer's recent book, however, this area appears in seventh place since the order of the D areas was slightly changed.

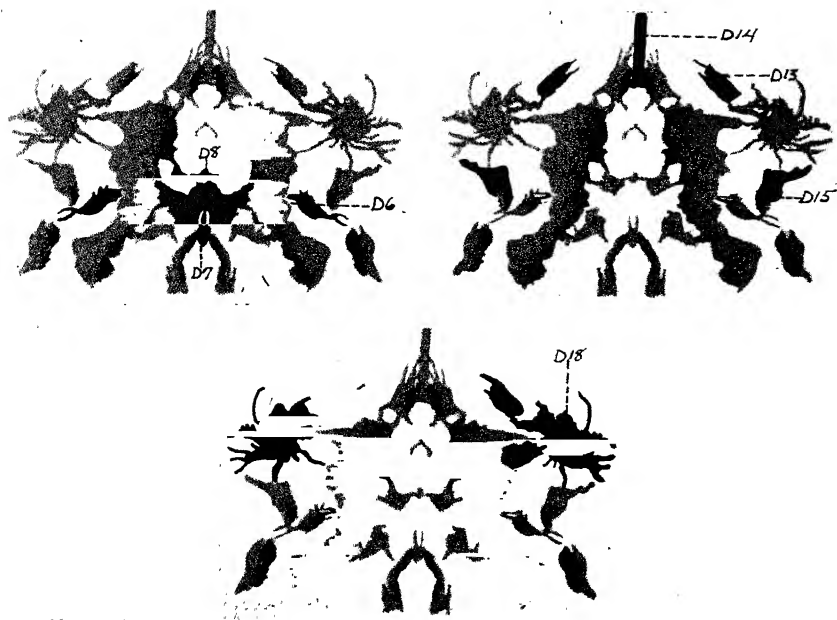
D10 which is the area between the green and orange portions has perhaps been scored S by some examiners. However, Klopfer says: (2, p. 106): "The situation is somewhat more complicated in Card IX where the greater part of the inner space between the green and orange portions is filled in with rather faint colors and shadings. If the total inside area, frequently interpreted as a violin or cello or vase, is used as a concept area it may not be assumed that a complete reversal of figure and ground prevails; this is predominantly a D response which includes some additional white space areas." Furthermore since D9 is included in this area, it seems a little inconsistent to call one half of the area S and the other half D.

The dotted area on the small d chart might be part of d1 as well as d3.



CARD X

Card X.—Our D16 included only D9 and D4, not D9 and D3 as did Klopfer's. D18 was added.



CARD X (Continued)

SECTION III

Graphs of the Distribution of Responses According to Their Location

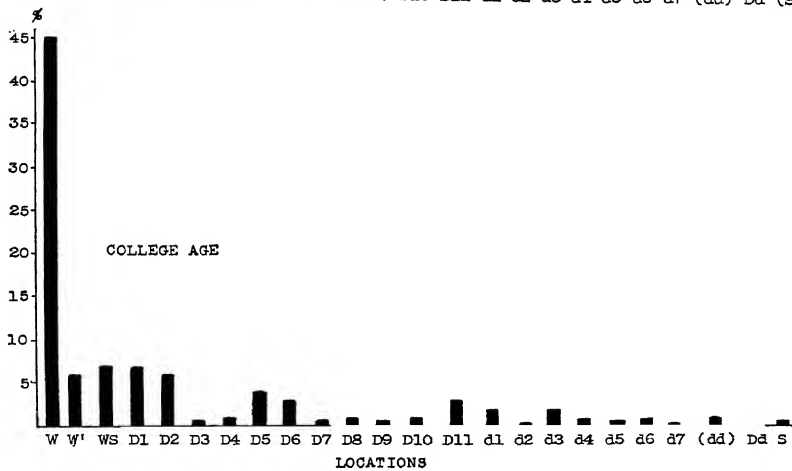
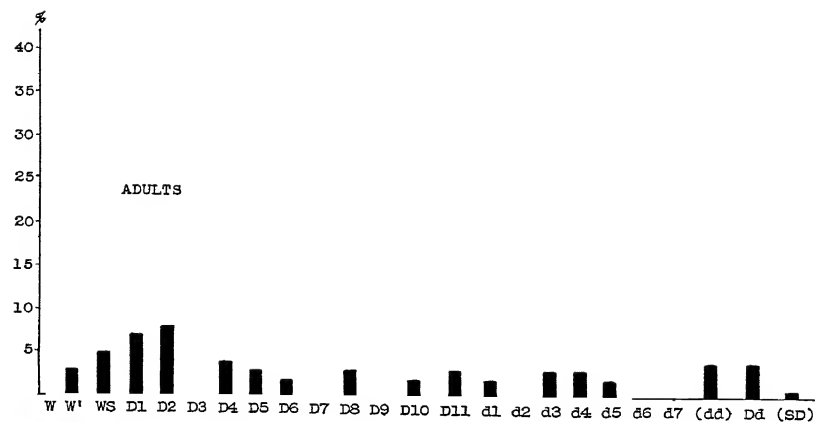
IT IS CUSTOMARY to epitomize certain aspects of scored Rorschach records graphically by means of a "psychogram." In this way one can see at a glance a characteristic profile, the overemphasis or lack of emphasis on various ingredients of the personality, expressed in Rorschach terms.

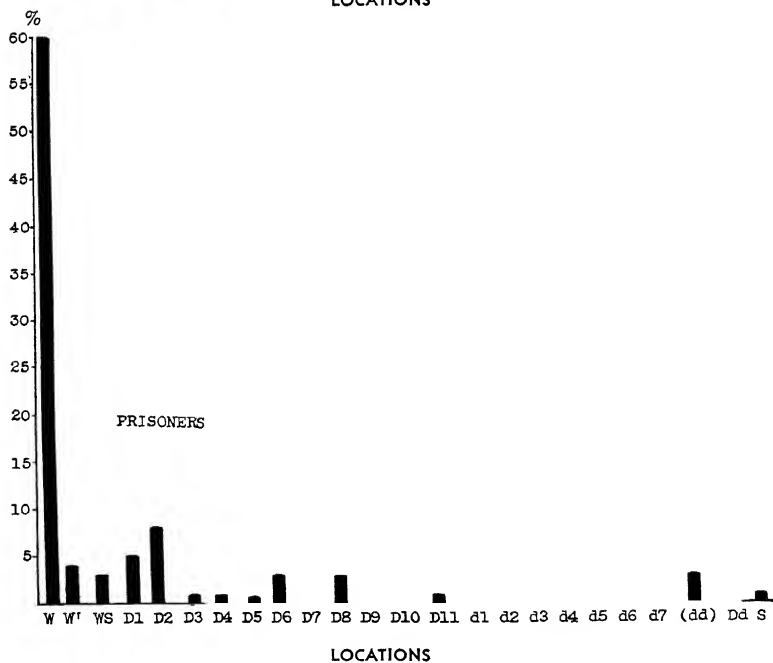
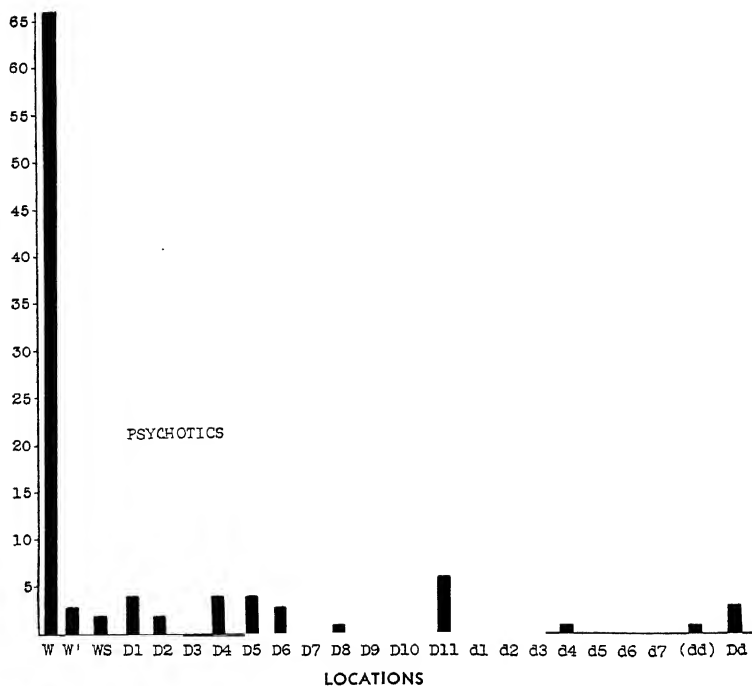
We have adopted a similar means to express the characteristics, not of our subjects, but of each of the ten Rorschach inkblots when these are considered from the point of view of the various areas utilized by the subjects in the formation of their responses. Seen in this light each of the inkblots has an identifying profile in regard to its whole-part characteristics. This profile is maintained, in essence, regardless from which group of subjects one takes the responses.

For example, of the 632 responses given by the College Age group to Card 1, forty five percent involve the whole blot. The remainder are distributed over many different detail areas, and no single area is of particular importance. Of the 791 responses given by this same group to Card X, only twelve percent involve the whole blot, many different areas are again employed, but of these D1 is clearly the most important. Card V on the other hand, while, like Card 1, it gives rise to many whole responses, is broken up into comparatively few detailed areas. Card VIII is unique in that, for all four groups of subjects, a single detail area (D1) is most frequently used, and so on.

The locations along the base line of the graphs are those which have been diagramatized in Section II. In addition to these we have included three symbols which do not appear in the diagrams. These are (DD) (dd) and (SD). (DD) is used when the response involved two or more large detail areas, as for example, D3 and D4, or D3, D4 and D5. (dd) is used when two small detail areas have been combined, as, for example, d2 and d3. (SD) is used when the response has included a white space response and some other area, that is, S in combination with D, d or dr.

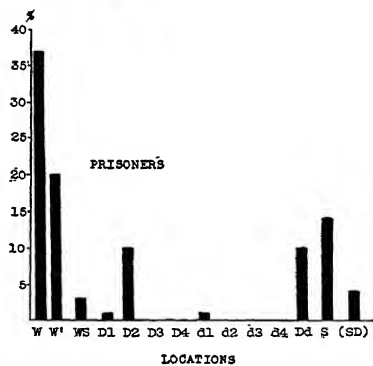
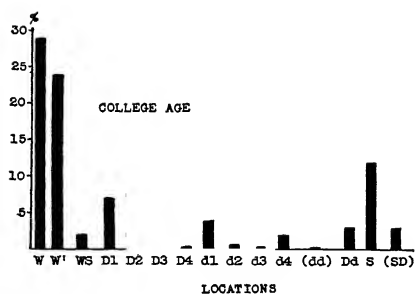
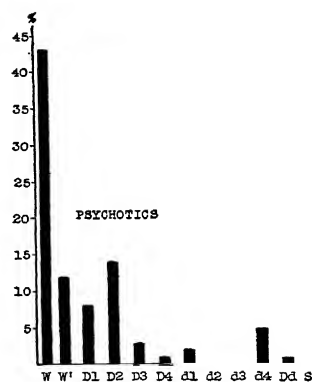
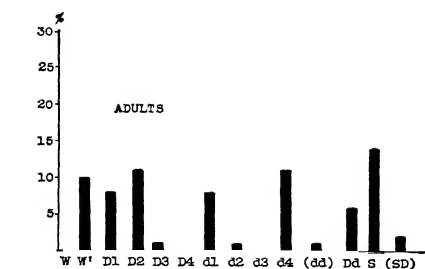
Tables for the card by card distribution of responses have not been included in this section since these percentages will be found, *for each area of each blot*, in the List of Content in Part IV.





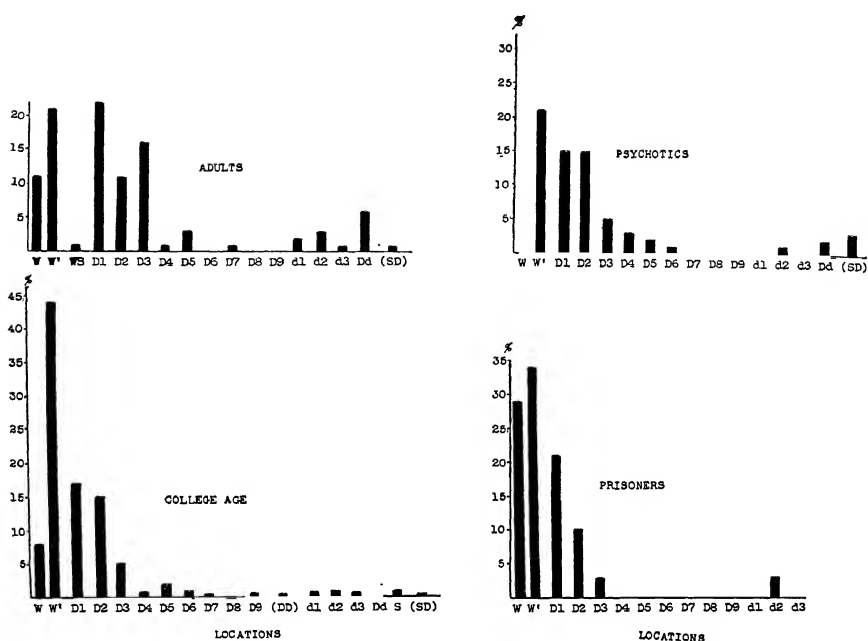
CARD I

Card I.—Card I has a very characteristic profile in all four groups. The W responses are outstanding. It is interesting to notice that this feature is the more marked in the “abnormal” groups; that is, utilization of areas other than the W is characteristic of the better integrated individuals.



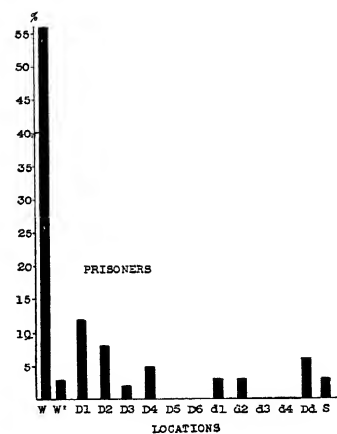
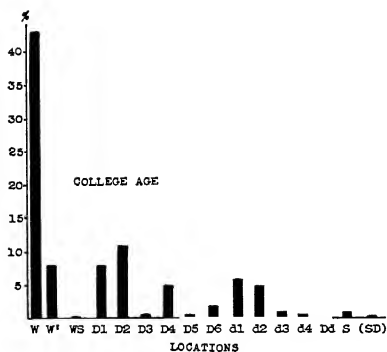
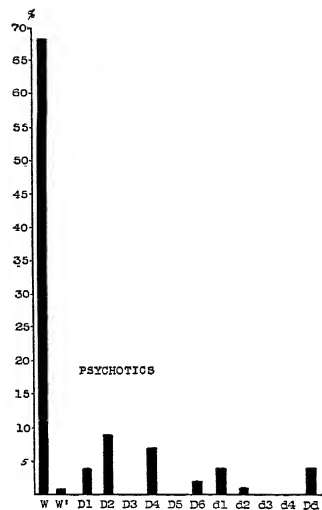
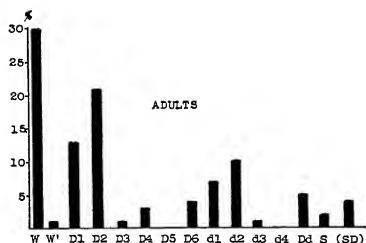
CARD II

Card II.—In Card II areas other than the *W* are much more freely used by all subjects. The *W'*, a negligible quantity in Card I, is utilized here. *S* is an important feature in all groups.



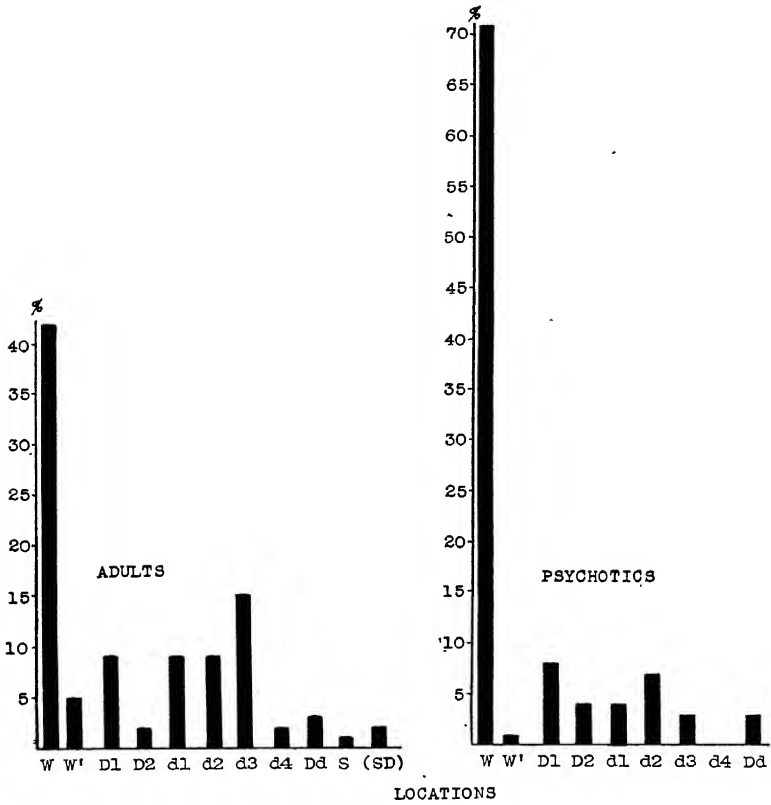
CARD III

Card III.—W, W', D1, and D2 are all dominant. The higher percentage of W in the abnormal groups is not due to the fact that these subjects produced superior and differentiated perceptions, but rather to the fact that they failed to differentiate on their location diagrams between the areas they actually used (W') and that area which they did not use (D2).



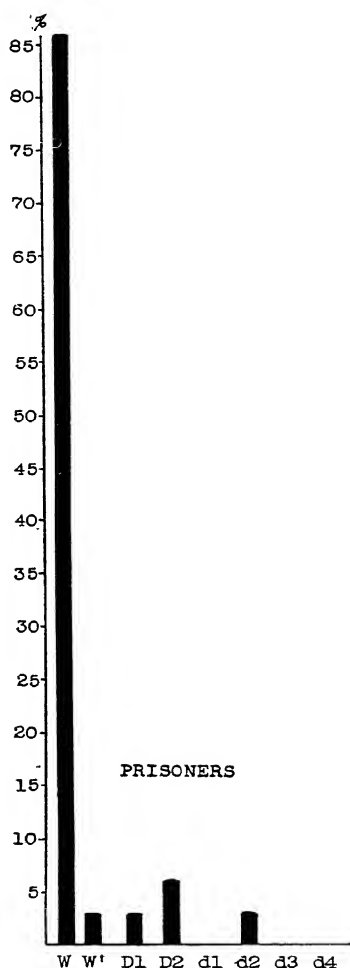
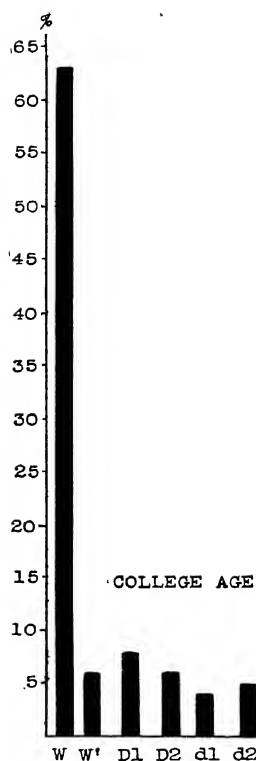
• CARD IV

Card IV.—Another card in which the W responses are dominant and increasingly so in the “abnormal” groups. This utilization of many areas has been shown to go hand in hand with a variety of content and a larger number of popular answers. It is unquestionably a mark of the more superior individuals.



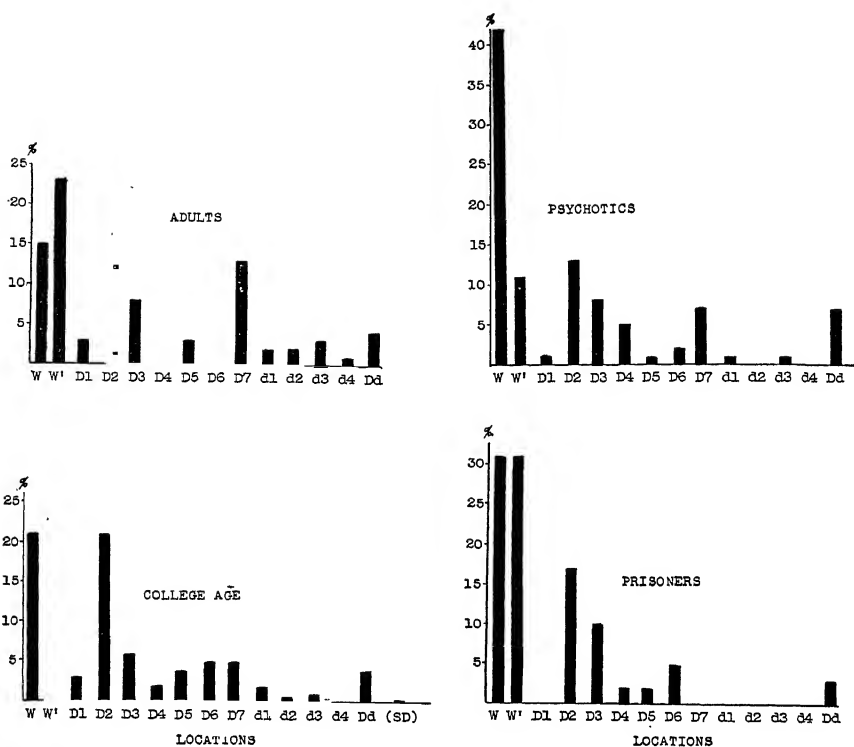
CARD V

Card V.—The spread along the base line, and particularly the utilization of the d areas is characteristic of the adult group.



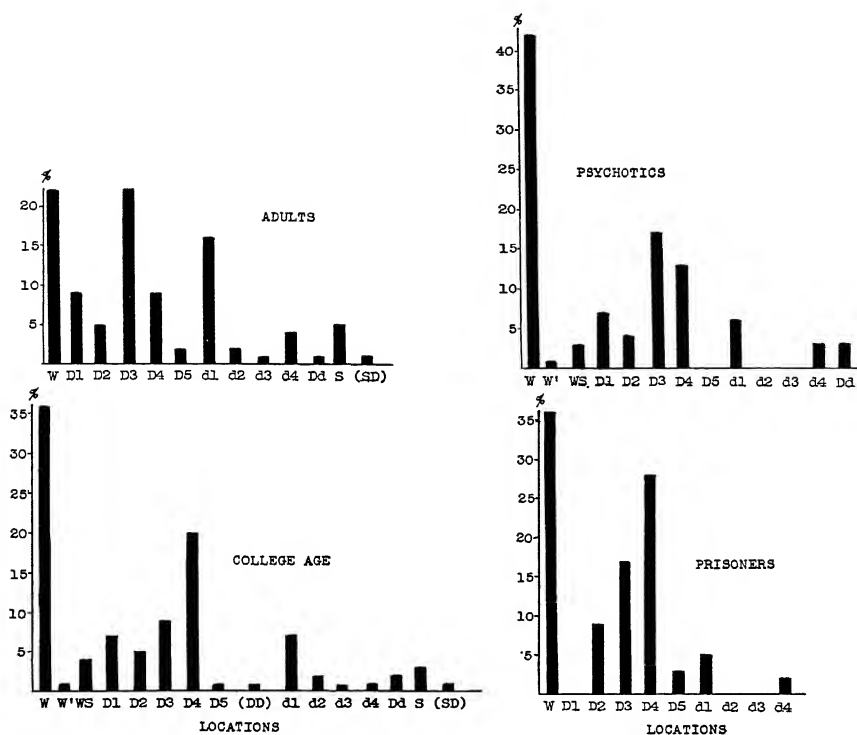
LOCATIONS

CARD V (Continued)



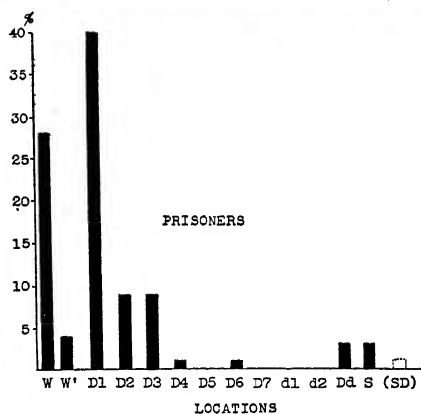
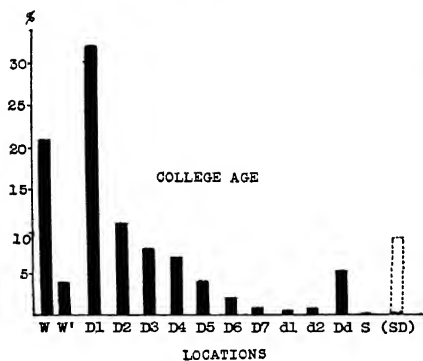
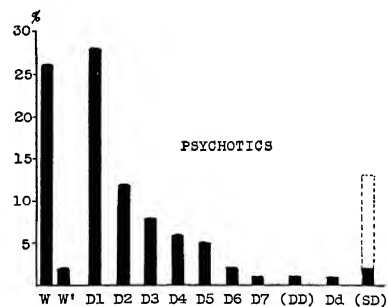
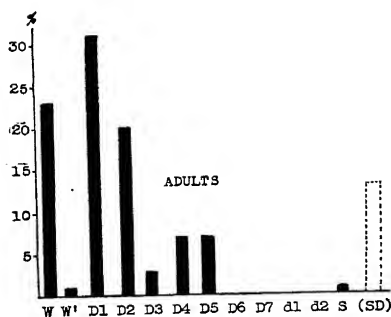
CARD VI

Card VI.—W and W' are again more frequently used by the "abnormal" groups. While D2 is used frequently in all groups, D7 is particularly important for the Adults. The absence of all small d responses is striking in the graph of the prison inmates



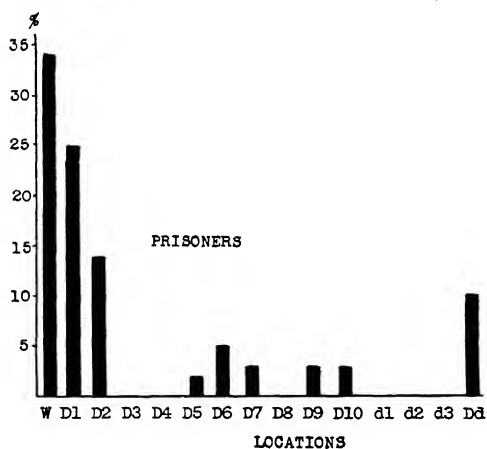
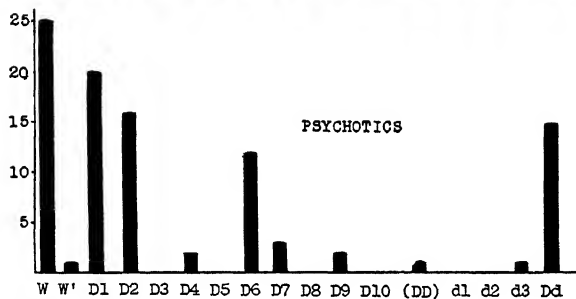
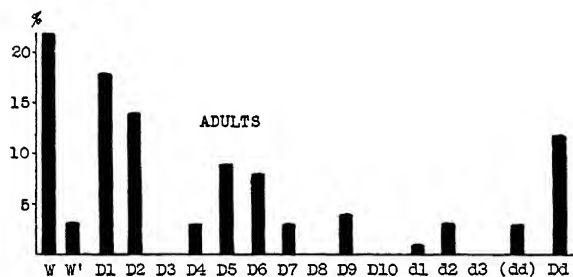
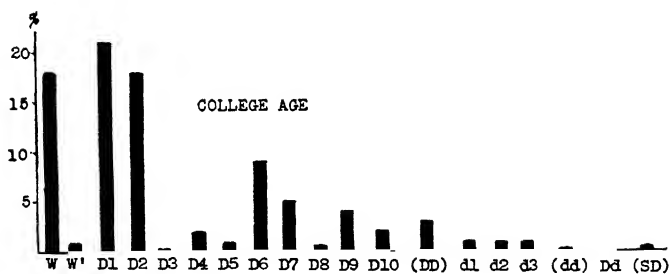
CARD VII

Card VII.—A striking gap in the graph of the prison inmates is caused by their failure to use D1. Again the d responses are more frequently found in the normal groups.



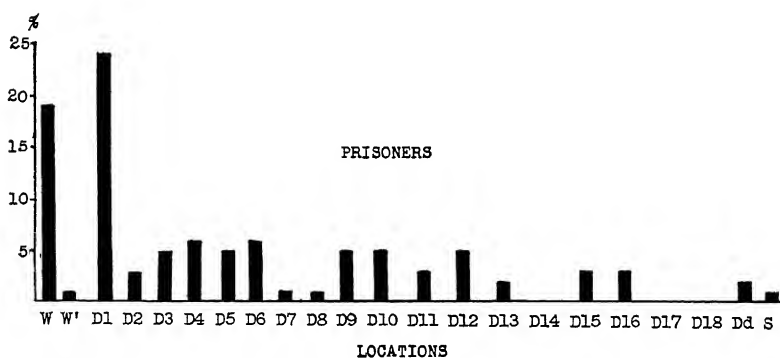
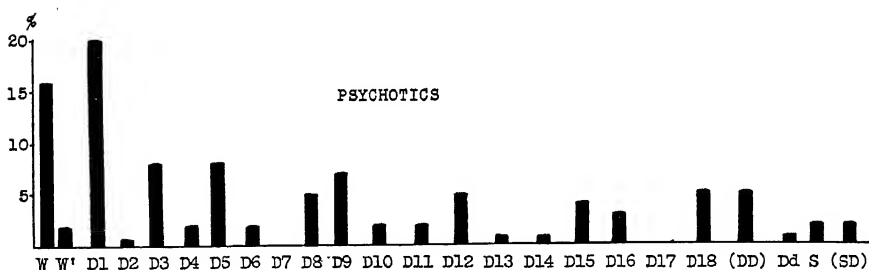
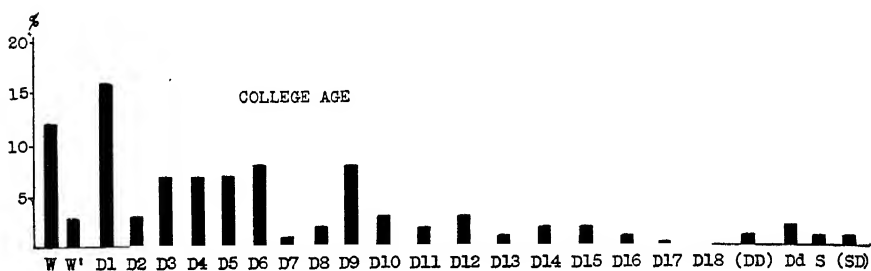
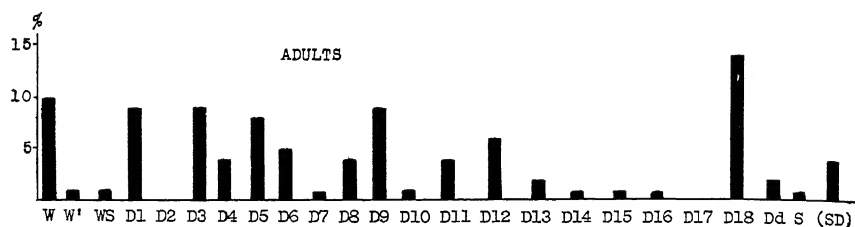
CARD VIII

Card VIII.—A large detail response, D1, for the first time is of greater importance than the W. Other D areas are also used considerably. The dotted area (SD) indicates a combination of two or more D's when one of these is D5.



CARD IX

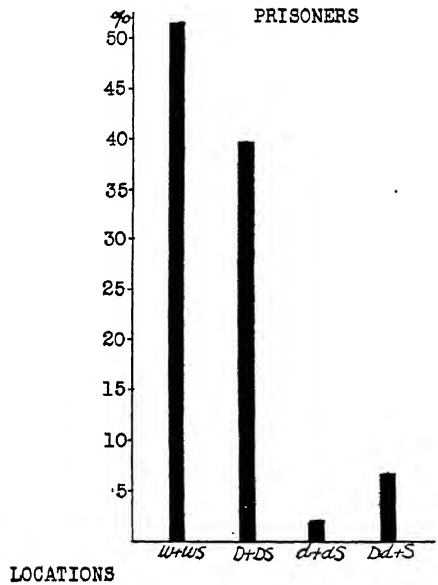
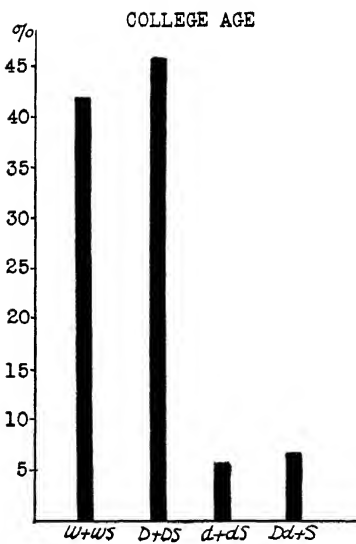
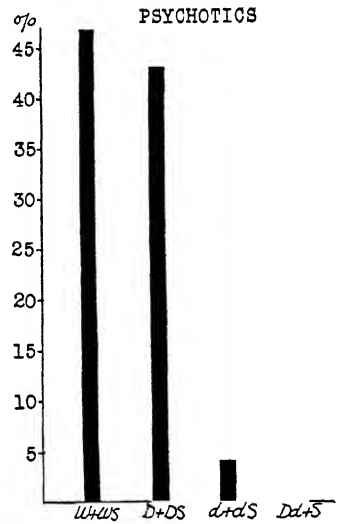
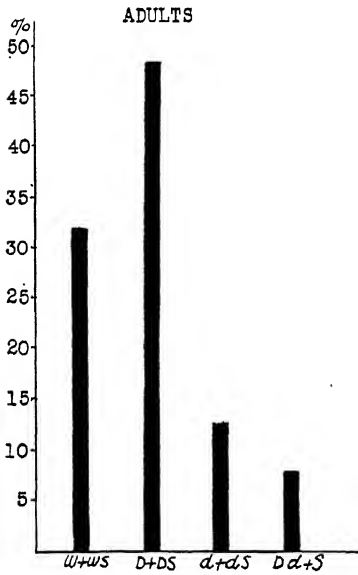
Card IX.—All four profiles for this card are very similar. Dd is an important area for the first time.



CARD X

Card X.—This is a profile essentially the reverse of cards I and V. The responses are distributed all over the various areas and no one area is dominant.

COMPOSITE GRAPHS OF THE DISTRIBUTION OF RESPONSES
ACCORDING TO LOCATION



SECTION IV

Percentage Tables of the Distribution of Responses According to Location

TABLE I

Summary of Distribution of Responses According to Location

LOCATION	224 COLLEGE AGE % RESPONSES	34 ADULTS % RESPONSES	41 PRISONERS % RESPONSES	41 PSYCHOTICS AND PSYCHOPATHIC PERSONALITIES % RESPONSES
W	28.4	23.9	41.4	41.2
W'	11.9	7.0	9.5	5.7
W+W'	40.3	30.9	50.9	46.9
WS+W'S	1.4	.9	.7	.4
Total	41.7	31.8	51.6	47.3
D	44.3	46.1	39.4	41.0
D+S	1.4	2.0	.3	2.0
Total	45.7	48.1	39.7	43.0
d	5.7	12.7	2.2	3.7
d+S	.2	.1	0	0
Total	5.9	12.8	2.2	3.7
dd	.7	.8	.4	0
de	.4	.7	1.3	.7
di	.5	.1	0	.2
dr	3.1	2.5	2.1	2.7
dr+S	.3	1.0	.4	.6
S	1.9	2.4	2.2	1.8
Total	6.9	7.5	6.4	6.0

TABLE II
Summary of Distribution of Responses According to Location
 COLLEGE AGE GROUPS
 (Percentages)

LOCATION	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
W	25.9	32.0	38.6	21.6	20.4
W'	10.2	16.3	13.8	10.3	11.7
W+W'	36.1	48.3	52.4	31.9	32.1
WS+W'S	.9	2.1	2.8	.6	.9
Total	37.0	50.4	55.2	32.5	33.0
D	45.9	40.0	35.8	53.6	53.4
D+S	1.2	1.8	1.2	1.0	2.8
Total	47.1	41.8	37.0	54.6	56.2
d	7.5	3.5	2.7	4.8	5.6
d+S	.1	.2	.3	.2	.3
Total	7.6	3.7	3.0	5.0	5.9
dd	.9	.3	.3	.4	.9
de	.3	0	.1	2.2	.3
di	.8	0	0	0	.9
dr	3.9	2.4	2.6	1.2	1.2
dr+S	.3	.5	.3	.8	0
S	2.1	.9	1.4	3.2	1.5
Total	8.3	4.1	4.7	7.8	4.8

Group I. Medical Students (108)

Group II. Nurses (40)

Group III. Aviation Cadets (45)

Group IV. Male Arts Students (19)

Group V. Female Arts Students (12)

Discussion of Preceding Graphs and Tables

In considering the material epitomized in the preceding Graphs and Tables it is well to have in mind the main question which motivated this detailed study. Namely, to what extent do these figures correspond to figures already derived from the individual procedure? Or, how closely do records taken by the group method approximate those taken by the individual, when the question of the location of responses is considered?

Unfortunately no comparable material exists from the individual method for the card by card analysis, but for the composite graphs and tables there already exist well recognized norms, first postulated by Rorschach and later substantiated by other writers. For example, Klopfer considers that when "the subject follows the Gestalt qualities of the

cards without any predilections for one type of area or another” (1) that the following percentages hold: W 20–30, D 45–55, d 5–15, DdS less than 10. As will be seen in Table 1, percentages derived from the Adult group of subjects *fall almost exactly into this distribution*: W 31.8, D 48.1 d 12.8 and DdS 7.5.

The other three groups in Table 1 show, to a greater or lesser degree, an overemphasis of the W responses; particularly, in the case of the Prisoners, at the expense of the d areas.

When the College Age group is split up into its five sub-groups (Table 11) it will be seen that the somewhat increased W% of the total group is derived from sub-groups 2 and 3, whereas sub-groups 4 and 5 more closely approximate the “unemphasized” distribution.

Hertzman has raised the question (2) of whether W responses are not more frequently given in the group test. He comes to the conclusion that, since the absolute number is the same in records taken under both conditions, the higher W% which he found was due to the fact that his group of subjects gave fewer responses under group conditions. He found a W% of 38.1 for 100 college students which is very close to the 41.7 of our 224 college subjects.

In view of the closeness of the percentages of the Adult group (and two of the sub-groups) to the norms for the individual method, we do not feel that the group method per se must always be considered responsible for higher W percentages. The vague and undifferentiated quality of many of the W responses in the Prisoners and Psychotic patients, with the corresponding lack of sharply perceived d areas, seems to us to be characteristic of these groups, in contradistinction to the Adult subjects. This same difference is reflected in the choice of popular answers, as will be seen in Section XI.

REFERENCES

1. Klopfer, Bruno and Kelley, D. M. *The Rorschach Technique*. World Book Co., 1942, viii, 436 pp.
2. Hertzman, Max. A comparison of the individual and group Rorschach tests. *Rorschach Res. Exch.*, 1942, 6: 89–108.

SECTION V

Discussion of Graphs of the Distribution of Responses According to Determinants

Introduction

WHAT CARD is most likely to produce an M response? Such a question could probably be easily answered without a statistical study, namely Card III. But would one expect the type of subject, or the size of the group under consideration to affect this result? Moreover, how about the card least likely to produce an M response? Or again, what is the answer if we substitute each of the other determinants in the place of M?

Such questions prompted the graphs and tables which are presented in this section. We are interested now in the potentialities of each of the cards for producing the various types of perceptual experiences, the so-called determinants. It is quite clear, however, that these perceptual potentialities are not independent of the type of subject who is doing the perceiving. At this point our sharply divergent groups of subjects stand us in good stead. When all four of these groups, normals and abnormals, are in agreement, or, put in another way, when a given determinant appears to be clearly dominant in all four groups in a particular card, we have positive evidence of the strength of that determinant in that card. Conversely, when one determinant fails to be elicited in any of the groups in one particular card, we have evidence that this particular card has little to offer towards this way of perceiving. When one of the groups deviates markedly from the other three, we have, on the other hand, information about the subjects which comprise that group with reference to that particular determinant.

Tables I and II are an attempt to epitomize certain aspects of the more detailed tables and graphs which follow. They answer the initial question: *which cards favor the production of each of the determinants* and in which are they *least likely to be perceived*.

Discussion of Tables I and II

The most striking points of similarity between the results obtained from these widely discrepant groups occur in the M, FC, and CF scores. Here in all cases the same cards evoke both the most frequent, and the least frequent responses involving these determinants. For the M scores, as might be expected, Card III is always in the lead; for FC, Card

TABLE I

Cards Most Likely To Produce Each of the Given Determinants

DETERMINANTS	COLLEGE AGE	ADULTS	PRISONERS	PSYCHOTICS
M	3	3	3	3
FM	8	5, 8	8	8
m	9	3	6	4
k	4	1	4	4
K	9	7	6	6
FK	6	7	6	7
F	1	1	1	5
Fc	6	6	6	6
c	6	6	6	6
C'	6	5	8	4
FC	8	8	8	8
CF	9	9	9	9

TABLE II

Cards Least Likely To Produce Each of the Given Determinants

DETERMINANTS	COLLEGE AGE	ADULTS	PRISONERS	PSYCHOTICS
M	6	8	6, 8	6, 8
FM	6	3	6	4
m	8, 5	2, 8, 9	3, 9, 10	5
k	5	4, 5, 9	3, 5, 6, 8, 10	3, 5
K	3	3, 4, 8	1, 2, 5, 8, 9, 10	1, 2, 3, 5
FK	3	2, 3, 8, 9	3, 4, 5, 9	8, 5
F	8	6	6	9
Fc	3	10	2, 3, 8, 10	3, 7, 2, 9, 10
c	3	3, 8, 10	3, 8, 9, 10	8, 3
C'	8	8, 9, 10	3, 4, 5, 9	9
FC	2	2	2	2
CF	3	3	3	3

VIII; and for CF, Card IX. Similarly for the least frequent use of these determinants we find Card VI and/or Card VIII as the most M resistant, Card II as the least likely to evoke an FC response, and Card III as that which is least likely to produce a CF response. The F responses also belong amongst those where there is an essential similarity between the four groups. Card I is by far the most likely to produce an F response in three of the four groups, while the single deviation (Card V) in the psychotic group exceeds the score for Card I by only a very small amount. Again, except for minor discrepancies, the same pattern or constellation of cards evoke the Fc and c responses in all four groups. Card VI is always in the lead, with Cards III, VIII and in some cases Cards X and VII as being least likely to elicit these responses.

The discrepancies between the groups, despite their divergent char-

acter, are very scarce. There is only one complete reversal and that is in the case of the k. For the adults this determinant is least likely to appear in Card IV, whereas in all the other groups, Card IV is most likely to produce it.

The only determinant which is highest in a different card for each of the four groups is m. The lowest score received by m also occurs in a variety of cards, in as many as six different ones. On the other hand K seems to occur in rather circumscribed areas; it does not occur at all in any of the cards listed in Table II, that is, in 14 instances.

FK occurs much more frequently in the college age group than it does elsewhere. There are FK responses in every card amongst this group and the total percent is much greater, whereas, in contrast, four cards have no FK responses at all amongst the adult group and the prison inmates.

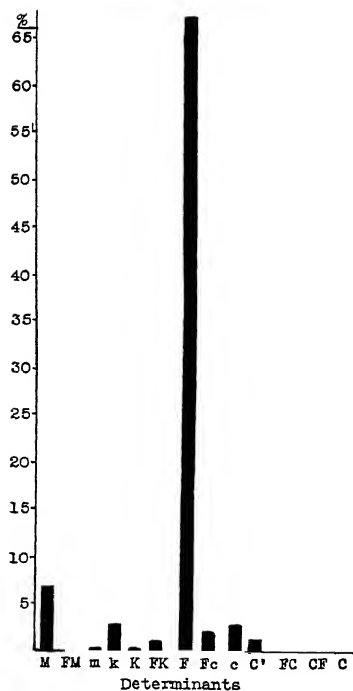
As discussed on page 70, the graphs which follow epitomize the characteristics of each of the ten cards, when expressed in terms of the perceptual determinants.

SECTION VI

Graphs of the Distribution of Responses According to Determinants

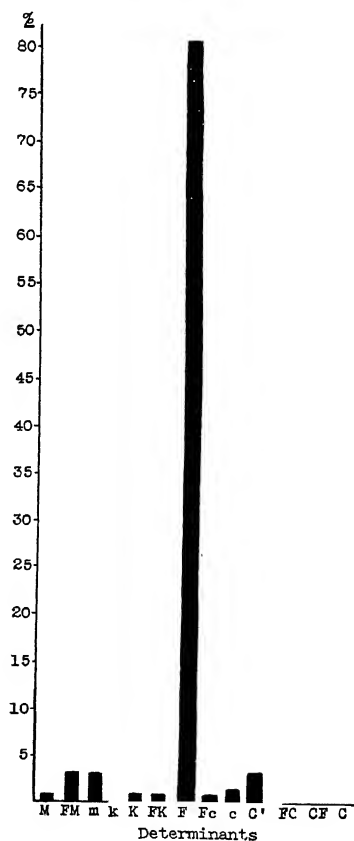
COLLEGE GROUP
224 Subjects

CARD I
632 Responses



ADULTS
34 Subjects

CARD I
116 Responses



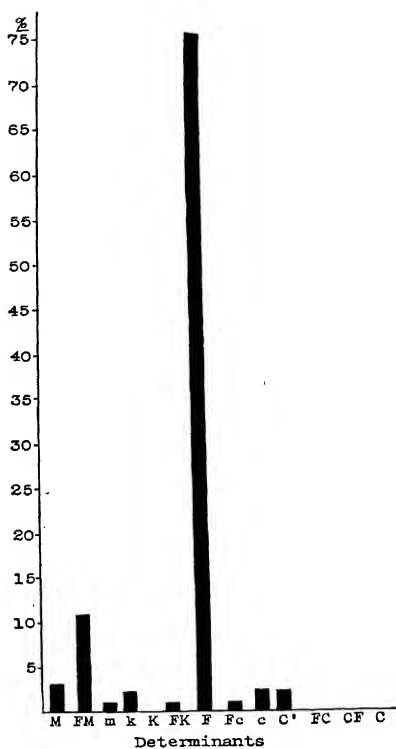
Card I.—Card I is unquestionably F dominated. FM is appreciably higher in the college age group and prison inmates than in adults and psychotics.

PRISON INMATES

41 Subjects

CARD I

92 Responses

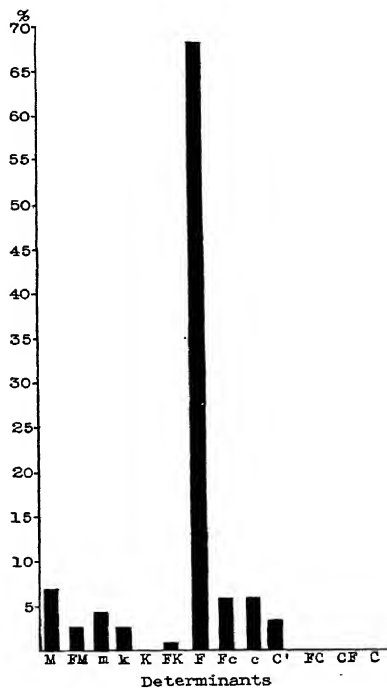


PSYCHOTICS AND PSYCHOPATHIC
PERSONALITIES

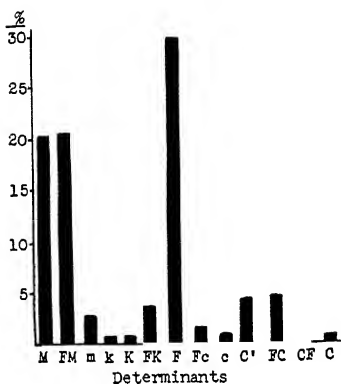
41 Subjects

CARD I

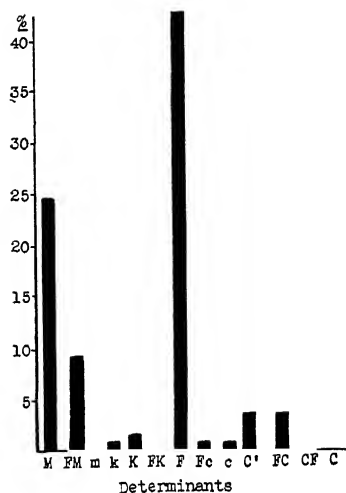
108 Responses



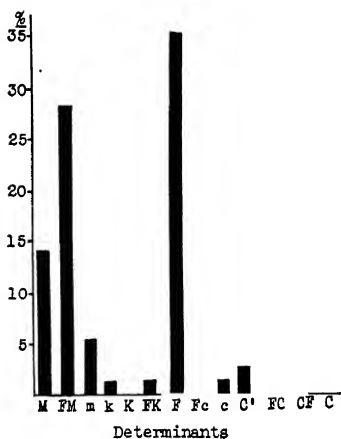
COLLEGE GROUP
224 Subjects
CARD II
540 Responses



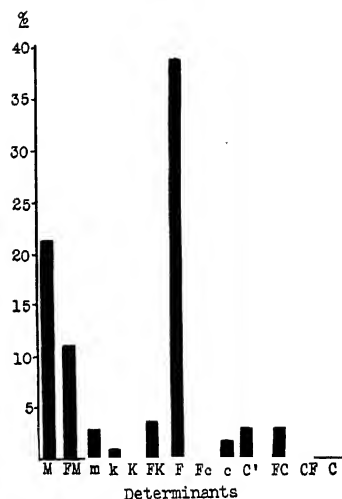
ADULTS
34 Subjects
CARD II
105 Responses



PRISON INMATES
41 Subjects
CARD II
71 Responses

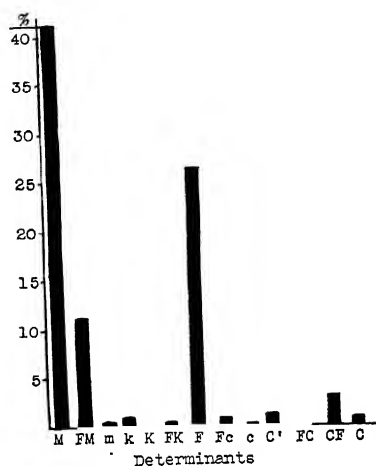


PSYCHOTICS AND PSYCHOPATHIC
PERSONALITIES
41 Subjects
CARD II
110 Responses

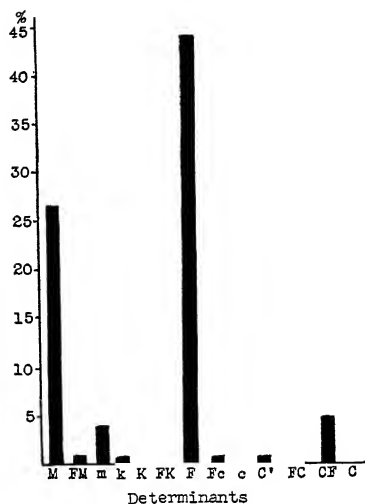


Card II.—In contrast to the previous profile of Card I, it will be seen that M, FM, F, and CF are all important ingredients. In the adults and in the psychotic group M clearly dominates FM. FM and M run parallel in the college age group and the reverse relationship holds for prison inmates.

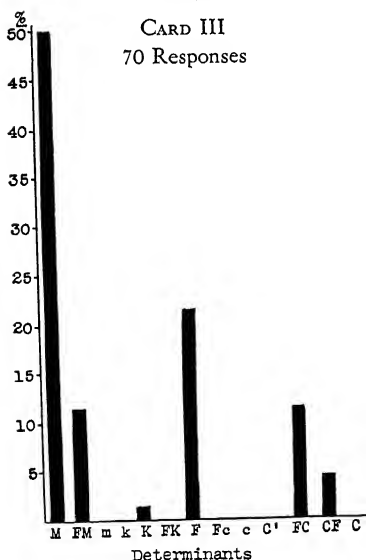
COLLEGE GROUP
224 Subjects
CARD III
592 Responses



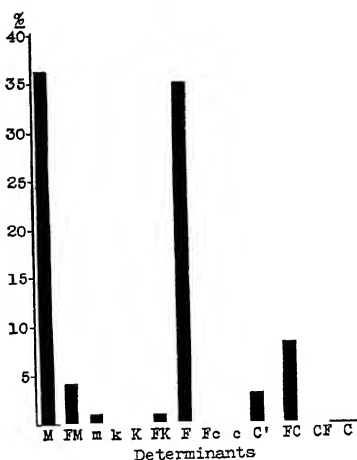
ADULTS
34 Subjects
CARD III
122 Responses



PRISON INMATES
41 Subjects
CARD III
70 Responses

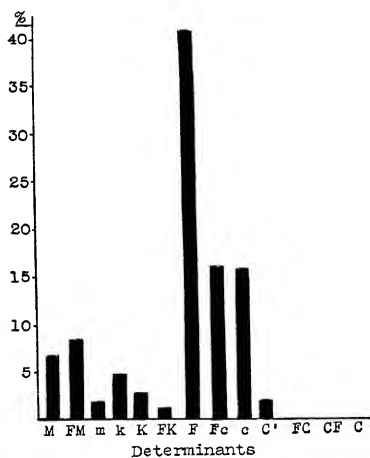


PSYCHOTICS AND PSYCHOPATHIC
PERSONALITIES
41 Subjects
CARD III
97 Responses

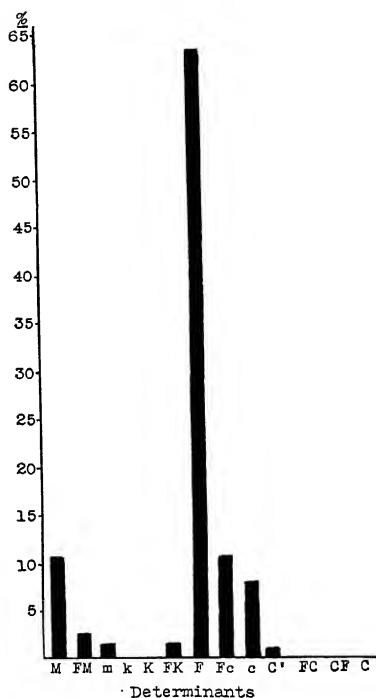


Card III.—As we have known since Rorschach's publication, card III is an M dominated card. In 2 of the 4 groups, the college age and prison inmates, the M is higher than the F column. In the adults, however, this relationship is reversed. In the psychotics the two are virtually equal. It is interesting to note that in the college group and prison inmates the FM is appreciably higher than in the other two groups. In contrast to card II, FC is now predominant except in the case of the psychotics where CF still retains its supremacy.

COLLEGE GROUP
224 Subjects
CARD IV
556 Responses

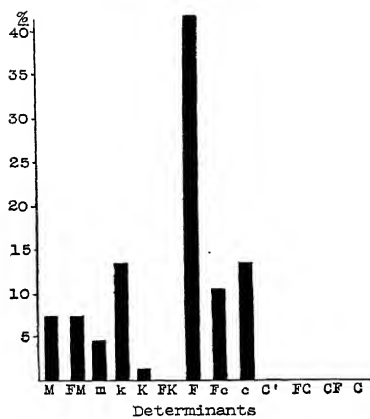


ADULTS
34 Subjects
CARD IV
110 Responses

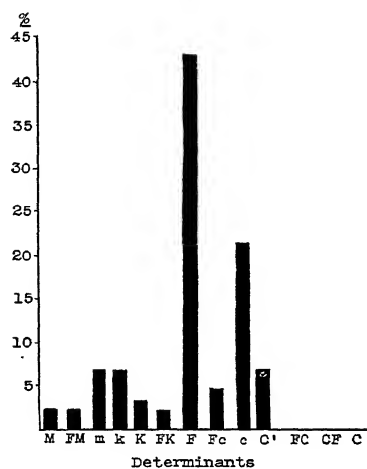


Card IV.—Card IV introduces yet another completely different psychogram. As would be expected Fc and c are the important determinants. An interesting point to note is the ratio of Fc:c. It is correct in the case of the adults, equal in the college age group, and reversed in the two abnormal groups. C' is a relatively important ingredient in the psychotic group.

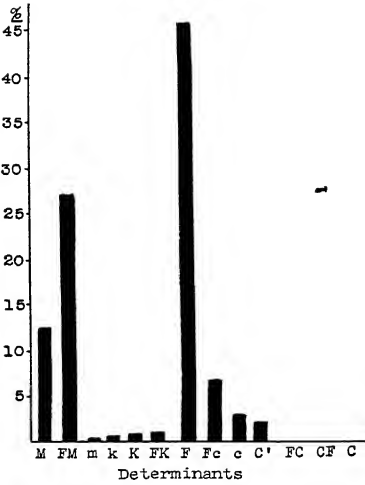
PRISON INMATES
41 Subjects
CARD IV
66 Responses



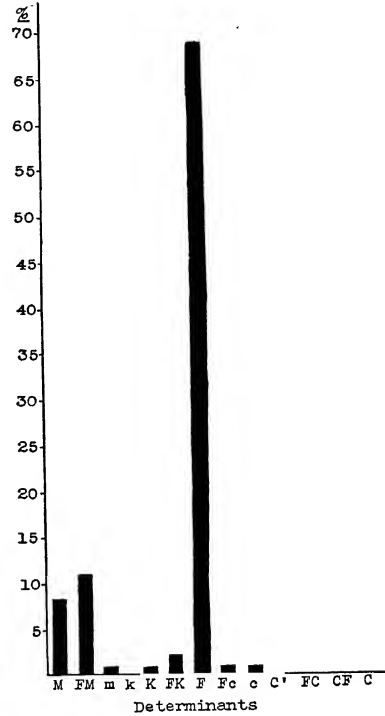
PSYCHOTICS AND PSYCHOPATHIC
PERSONALITIES
41 Subjects
CARD IV
81 Responses



COLLEGE GROUP
224 Subjects
CARD V
489 Responses



ADULTS
34 Subjects
CARD V
96 Responses



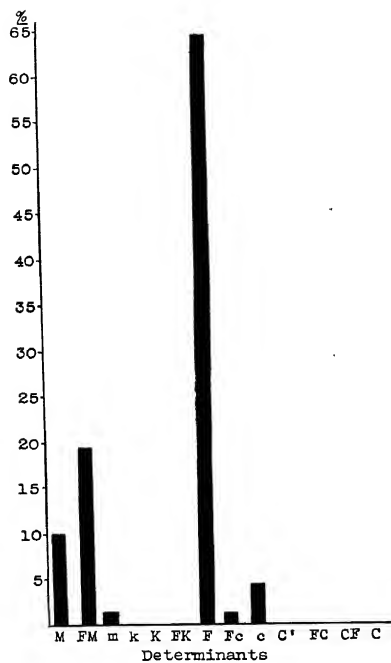
Card V.—Whereas we have described Card I as an F dominated card, Card V is an F and FM dominated card, although the FM is again subordinate to the F. M is in all cases subordinate to FM, in contrast to Card I where in some instances it predominates.

PRISON INMATES

41 Subjects

CARD V

70 Responses

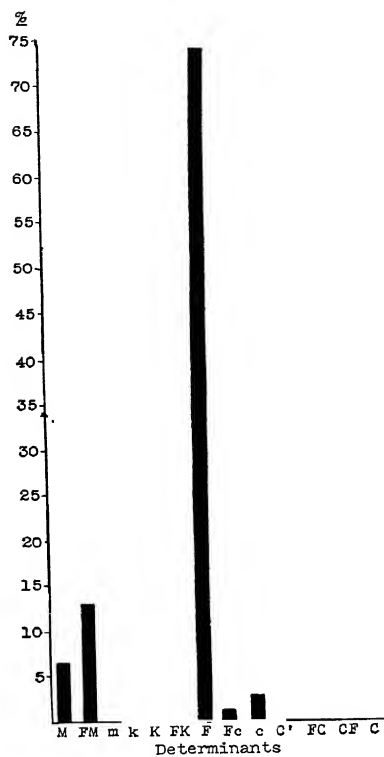


PSYCHOTICS AND PSYCHOPATHIC
PERSONALITIES

41 Subjects

CARD V

76 Responses



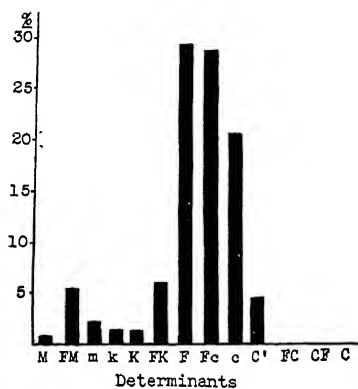
LARGE SCALE RORSCHACH TECHNIQUES

COLLEGE GROUP

224 Subjects

CARD VI

565 Responses

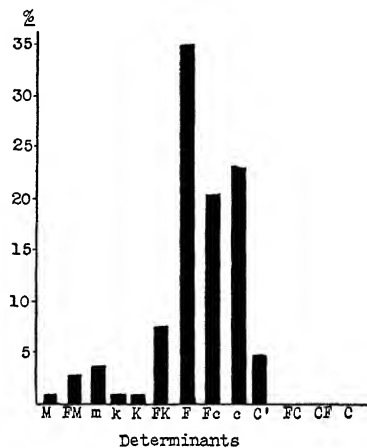


ADULTS

34 Subjects

CARD VI

101 Responses

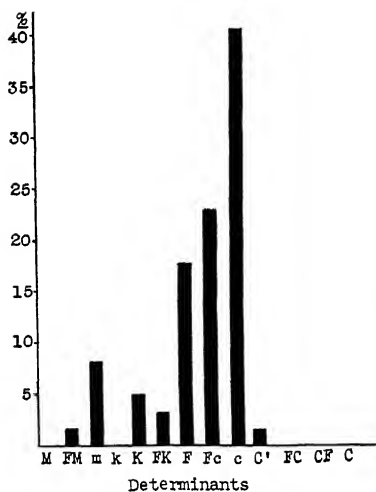


PRISON INMATES

41 Subjects

CARD VI

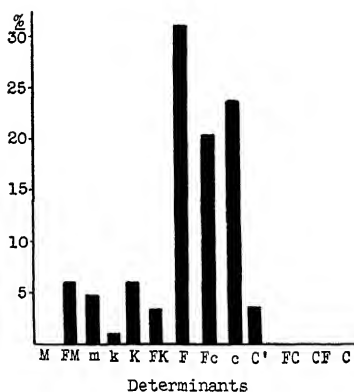
59 Responses

PSYCHOTICS AND PSYCHOPATHIC
PERSONALITIES

41 Subjects

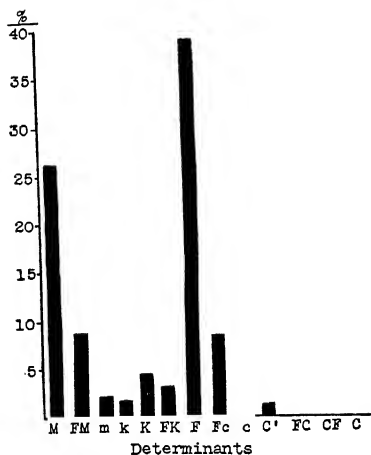
CARD VI

84 Responses

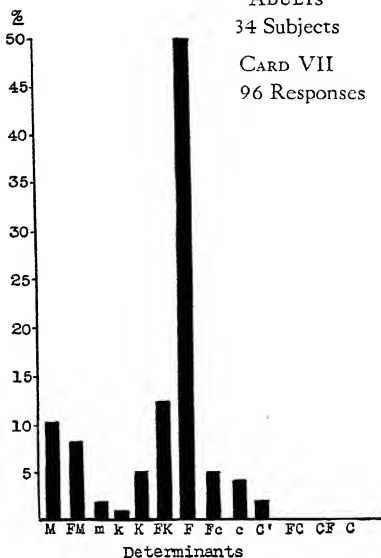


Card VI.—This is another characteristic psychogram somewhat reminiscent of IV but with a definitely lower F%; that is, the dominant columns approximate each other more closely. The most outstanding and interesting deviation is the 40% c in the prison inmates as compared with the 18% F. In none of the other three groups was the c more dominant than the F.

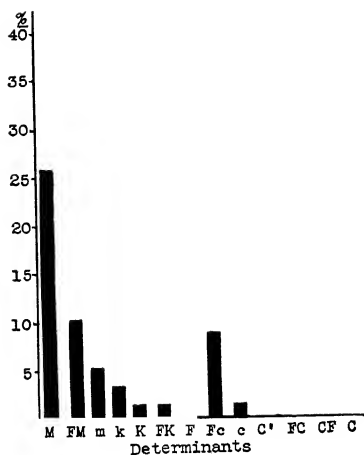
COLLEGE GROUP
224 Subjects
CARD VII
482 Responses



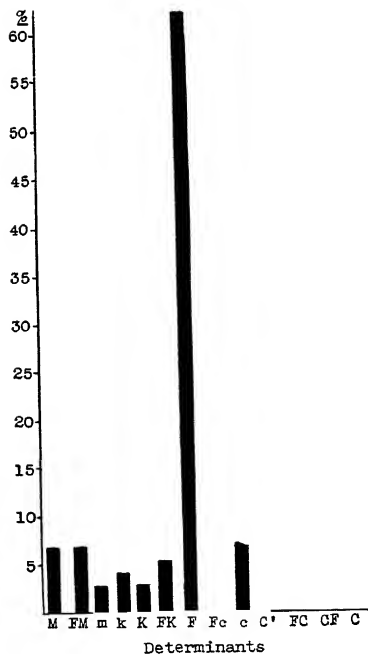
ADULTS
34 Subjects
CARD VII
96 Responses



PRISON INMATES
41 Subjects
CARD VII
58 Responses



PSYCHOTICS AND PSYCHOPATHIC
PERSONALITIES
41 Subjects
CARD VII
69 Responses



Card VII.—In Card VII F and M are the striking features in the college group and prison inmates. F is predominant in the case of the psychotics and the adults.

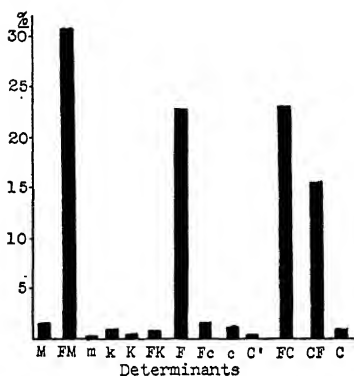
LARGE SCALE RORSCHACH TECHNIQUES

COLLEGE GROUP

224 Subjects

CARD VIII

609 Responses

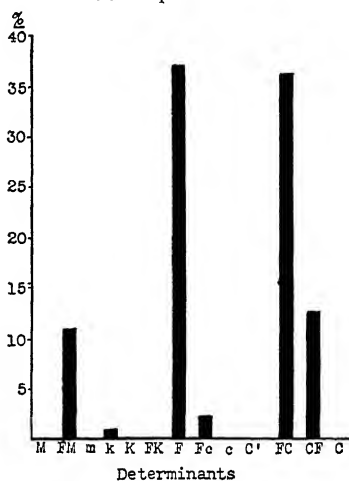


ADULTS

34 Subjects

CARD VIII

90 Responses

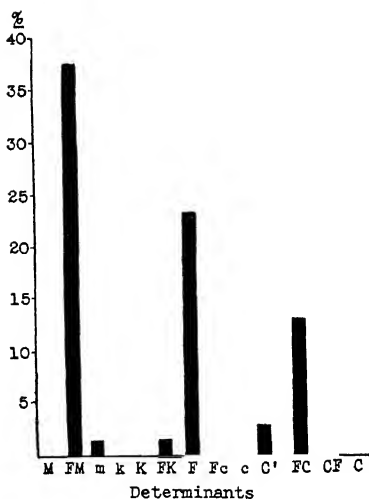


PRISON INMATES

41 Subjects

CARD VIII

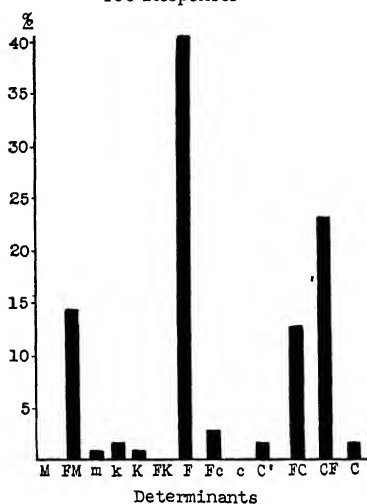
68 Responses

PSYCHOTICS AND PSYCHOPATHIC
PERSONALITIES

41 Subjects

CARD VIII

106 Responses



Card VIII.—This is of course the card in which FM plays its most important role, where M is virtually absent and where in the two normal groups FC clearly predominates over CF. In the abnormal groups this relationship is reversed, CF being stronger than FC. FM varies from 38% to 11%, a considerable difference.

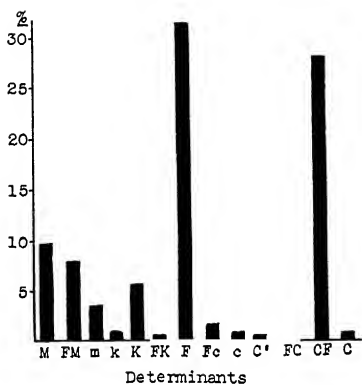
The sub-groups again tell the same story. In no case does CF predominate over FC.

COLLEGE GROUP

224 Subjects

CARD IX

550 Responses

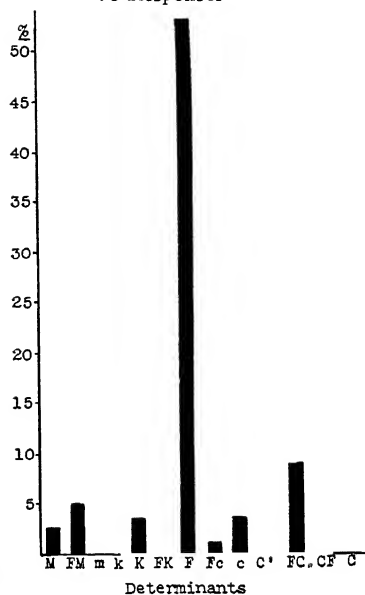


ADULTS

34 Subjects

CARD IX

78 Responses

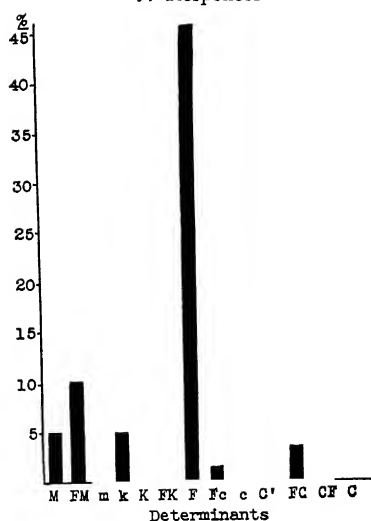


PRISON INMATES

41 Subjects

CARD IX

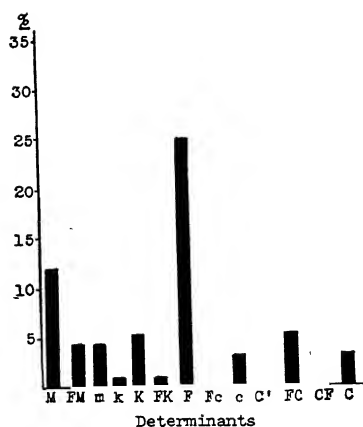
59 Responses

PSYCHOTICS AND PSYCHOPATHIC
PERSONALITIES

41 Subjects

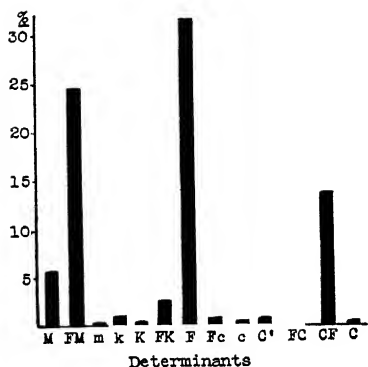
CARD IX

91 Responses



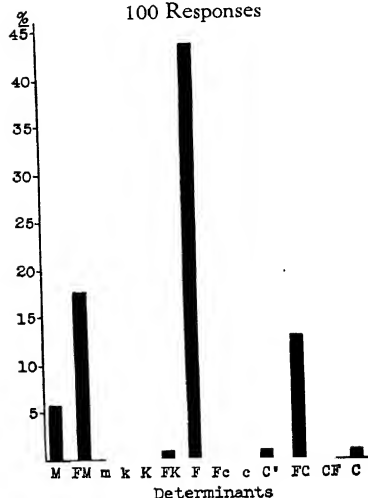
Card IX.—Unlike Card VIII CF is the important determinant in the normal as well as the abnormal groups. While the gap between the two is more marked in the abnormal subjects the trend is virtually the same.

COLLEGE GROUP
224 Subjects
CARD X
791 Responses

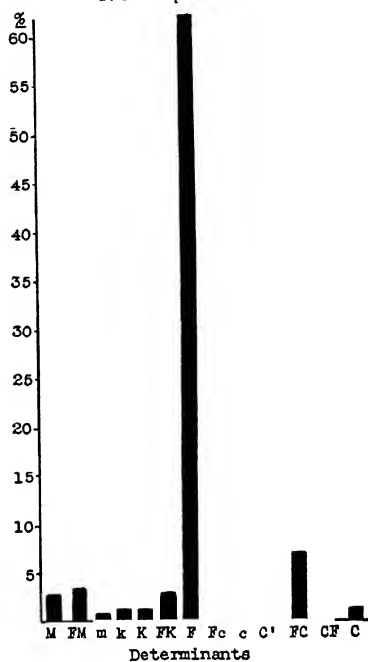


PRISON INMATES
41 Subjects

CARD X
100 Responses

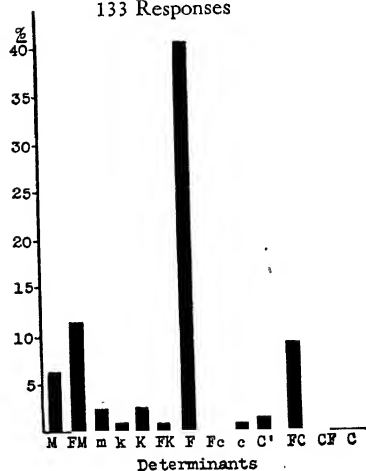


ADULTS
34 Subjects
CARD X
138 Responses



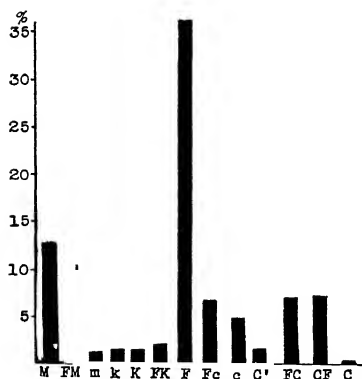
PSYCHOTICS AND PSYCHOPATHIC
PERSONALITIES
41 Subjects

CARD X
133 Responses



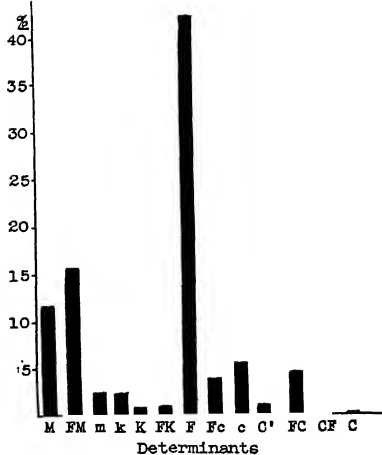
Card X.—Except in the case of adults, this card may be considered to have 4 important ingredients—FM, F, and the two color columns. In the adults the F prospers at the expense of the FM.

COLLEGE GROUP
224 Subjects
COMPOSITE FOR ALL CARDS
5806 Responses



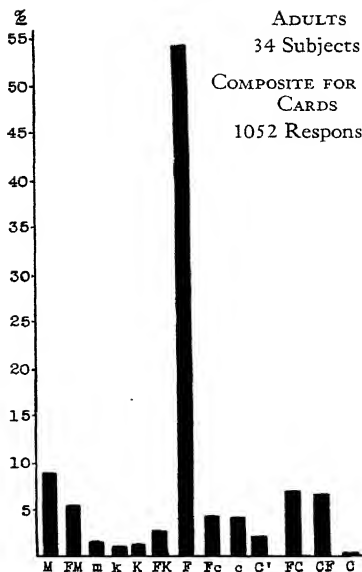
PRISON INMATES
41 Subjects

COMPOSITE FOR ALL CARDS
713 Responses



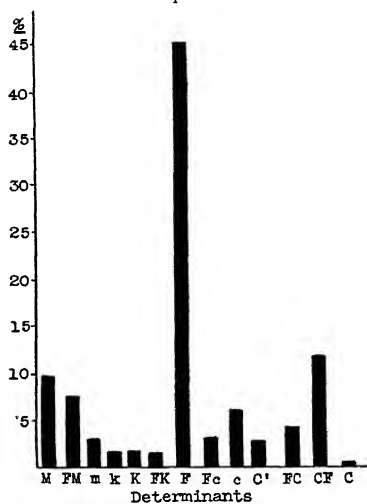
Determinants

ADULTS
34 Subjects
COMPOSITE FOR ALL CARDS
1052 Responses



PSYCHOTICS AND PSYCHOPATHIC
PERSONALITIES
41 Subjects

COMPOSITE FOR ALL CARDS
955 Responses



Determinants

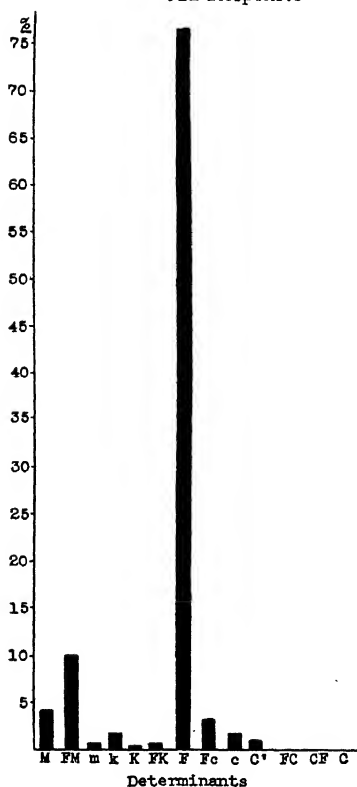
The composite graph epitomizes the differences between the groups which have been indicated in the various cards. As characteristic of the Adult group we find the highest F% (slightly on the constricted side). The M:FM ratio is correct, as is also the FC:CF and the Fc:c. Characteristic of the College age group is the fact that FM is greater than M, the F% is the lowest of the four groups, and the extrovertial relationships are in the correct direction or equal. The prison inmates show FM greater than M, c greater than Fc, CF greater than FC. All normal ratios are reversed. The psychotics also show a reversal of the extrovertial ratios, even to a more marked degree, but the M:FM relationship is in the correct direction. There are characteristic and distinguishing features in all four groups, therefore.

Graphs of Distribution of Responses According to Determinants (Sub-Groups)

For convenient comparisons only four of the five sub-groups into which the college age subjects were divided have been reproduced here. The fifth group (sub-group 2, nurses in training) will be found in section X where a comparison of individual and group performance card by card is made.

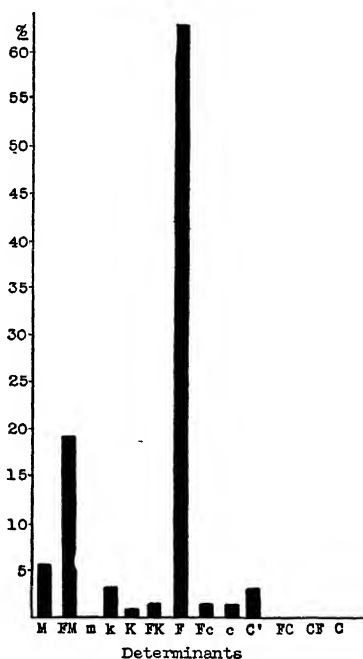
MEDICAL STUDENTS
(College Sub-group 1)
108 Subjects

CARD I
322 Responses



NAVAL AVIATION CADETS IN TRAINING
(College Sub-group 3)
45 Subjects

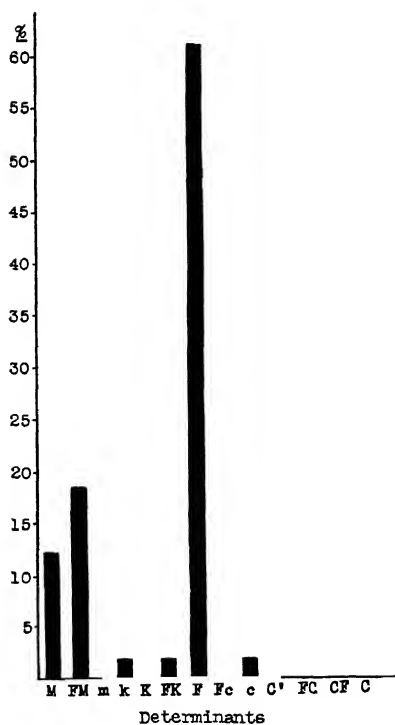
CARD I
122 Responses



Card I.—Except for an increase in M and c in sub-group 5, these psychograms do not deviate significantly one from the other or from the main groups previously discussed.

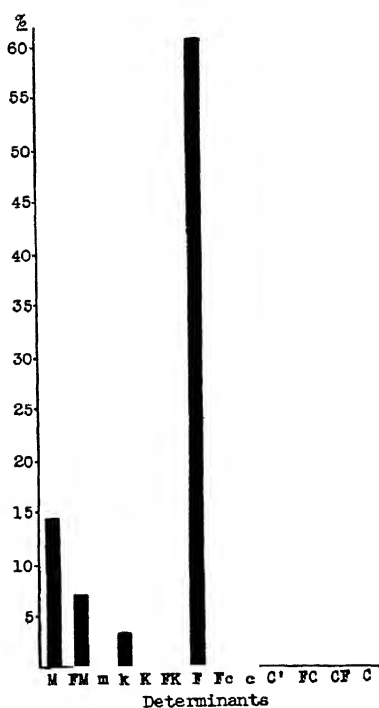
MALE STUDENTS
(College Sub-group 4)
19 Subjects

CARD I
49 Responses



FEMALE STUDENTS
(College Sub-group 5)
12 Subjects

CARD I
29 Responses

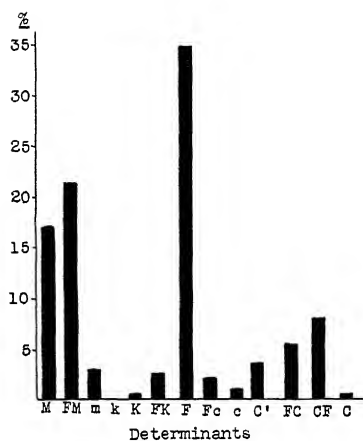


CARD I (Continued)

LARGE SCALE RORSCHACH TECHNIQUES

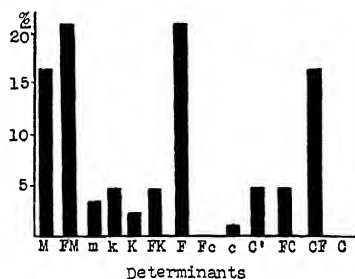
MEDICAL STUDENTS
(College Sub-group 1)
108 Subjects

CARD II
291 Responses



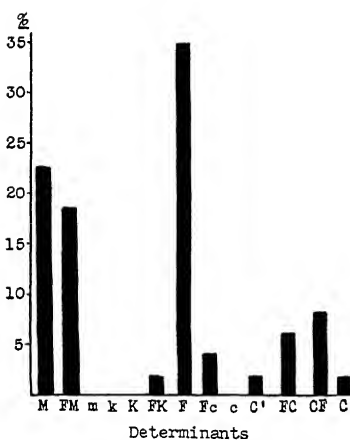
NAVAL AVIATION CADETS IN TRAINING
(College Sub-group 3)
45 Subjects

CARD II
86 Responses



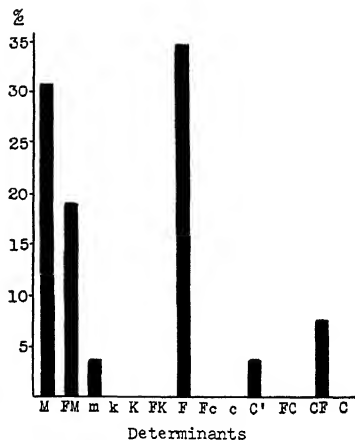
MALE STUDENTS
(College Sub-group 4)
19 Subjects

CARD II
50 Responses



FEMALE STUDENTS
(College Sub-group 5)
12 Subjects

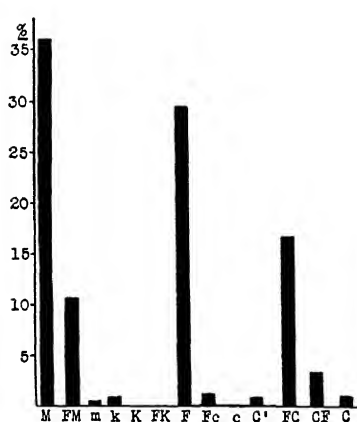
CARD II
25 Responses



Card II.—The greater incidence of m, k, K, and FK in the aviation cadets and considerably higher CF may be noticed as of interest and is possibly significant in relation to the early days of their training.

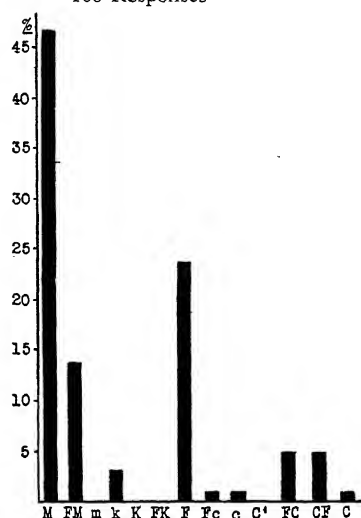
MEDICAL STUDENTS
(College Sub-group 1)
108 Subjects

CARD III
323 Responses



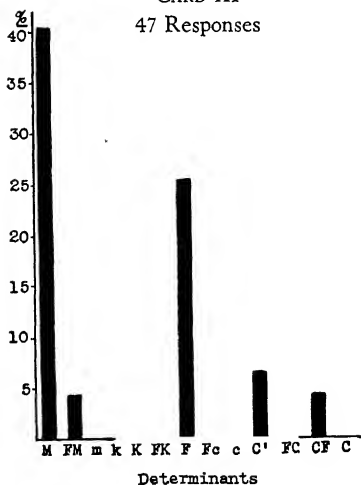
NAVAL AVIATION CADETS IN TRAINING
(College Sub-group 3)
45 Subjects

CARD III
100 Responses



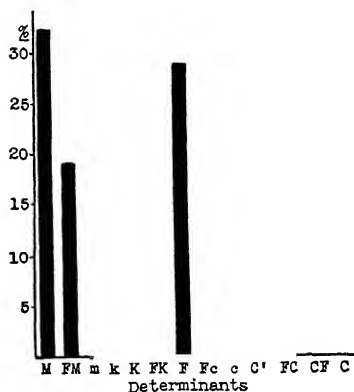
MALE STUDENTS
(College Sub-group 4)
19 Subjects

CARD III
47 Responses



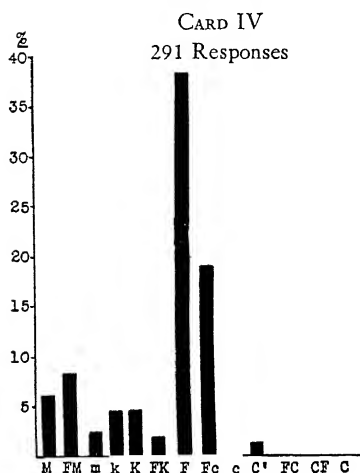
FEMALE STUDENTS
(College Sub-group 5)
12 Subjects

CARD III
31 Responses

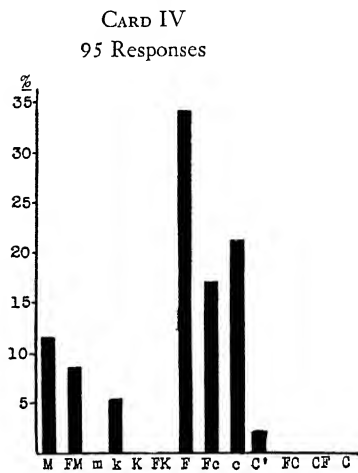


Card III.—While FC responses are particularly frequent in three groups they are much less so amongst the aviation cadets. This may be partly due to the initial adjustment previously suggested.

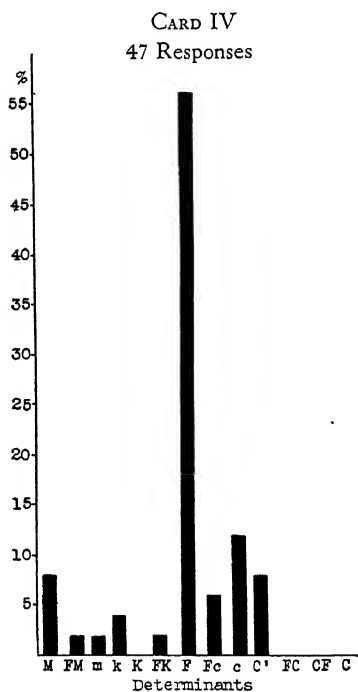
MEDICAL STUDENTS
(College Sub-group 1)
108 Subjects



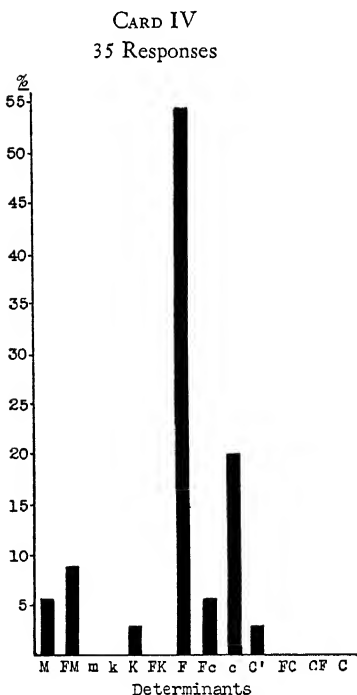
NAVAL AVIATION CADETS IN TRAINING
(College Sub-group 3)
45 Subjects



MALE STUDENTS
(College Sub-group 4)
19 Subjects



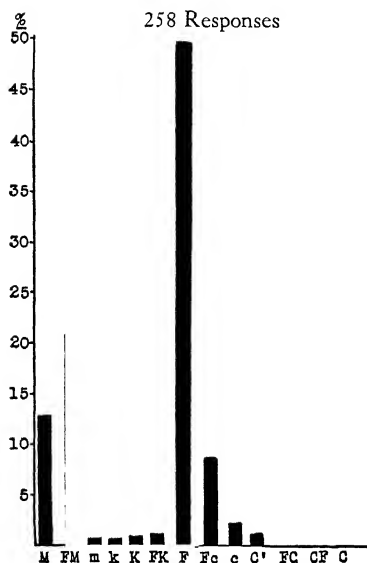
FEMALE STUDENTS
(College Sub-group 5)
12 Subjects



Card IV.—Variations within the groups of the relation of Fc:c and the height of the F column are the only differences. In general the psychograms are similar to those in the four main groups.

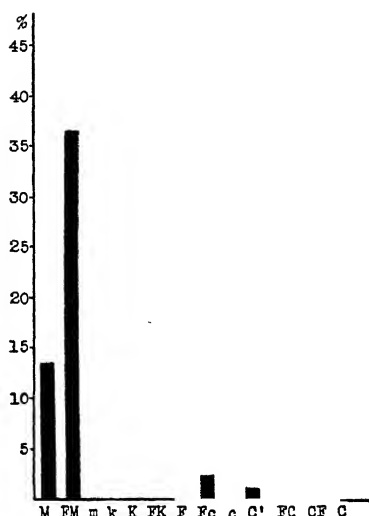
MEDICAL STUDENTS
(College Sub-group 1)
108 Subjects

CARD V
258 Responses



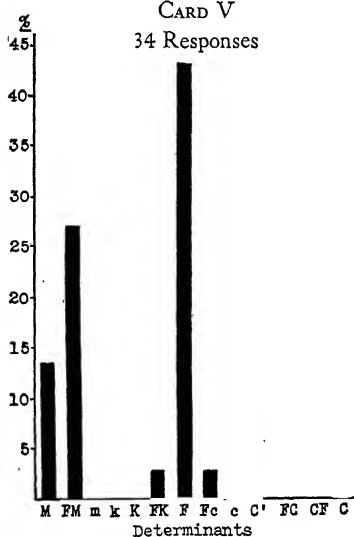
NAVAL AVIATION CADETS IN TRAINING
(College Sub-group 3)
45 Subjects

CARD V
88 Responses



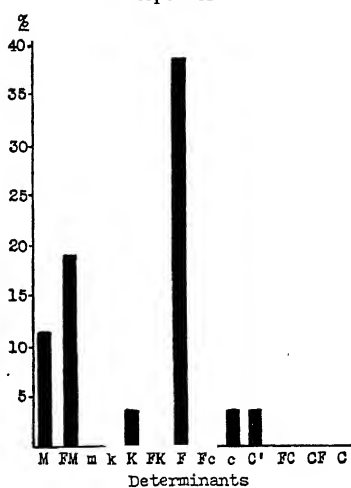
MALE STUDENTS
(College Sub-group 4)
19 Subjects

CARD V
34 Responses



FEMALE STUDENTS
(College Sub-group 5)
12 Subjects

CARD V
26 Responses



Card V.—The rise in the Fc which is shown by the female students is the only deviation from an otherwise consistent distribution.

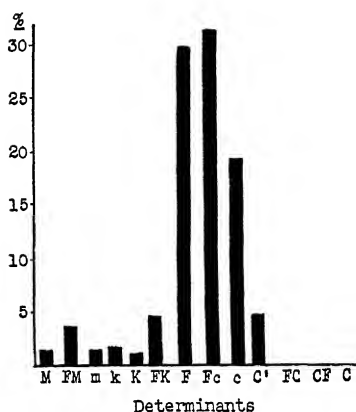
LARGE SCALE RORSCHACH TECHNIQUES

MEDICAL STUDENTS
(College Sub-group 1)

108 Subjects

CARD VI

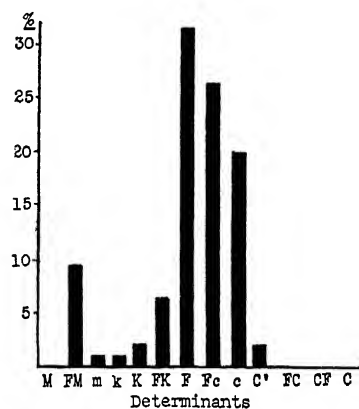
298 Responses

NAVAL AVIATION CADETS IN TRAINING
(College Sub-group 3)

45 Subjects

CARD VI

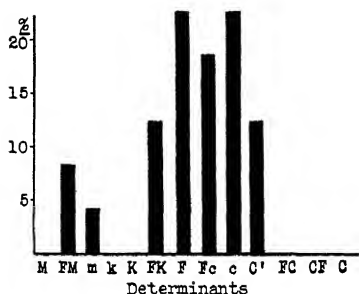
92 Responses

MALE STUDENTS
(College Sub-group 4)

19 Subjects

CARD VI

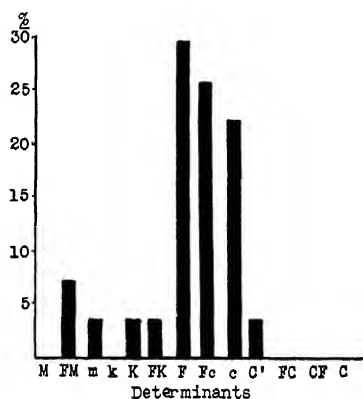
47 Responses

FEMALE STUDENTS
(College Sub-group 5)

12 Subjects

CARD VI

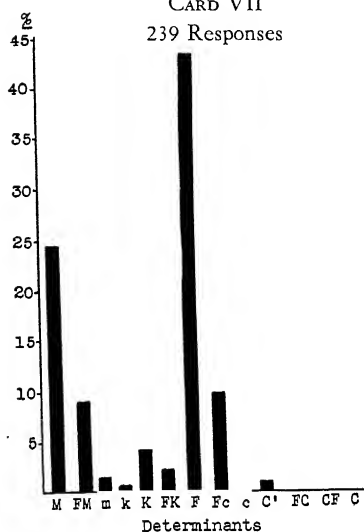
26 Responses



Card VI.—The height of the FK and C' columns in the male students constitutes a characteristic of that group on this card; otherwise the distribution is the same.

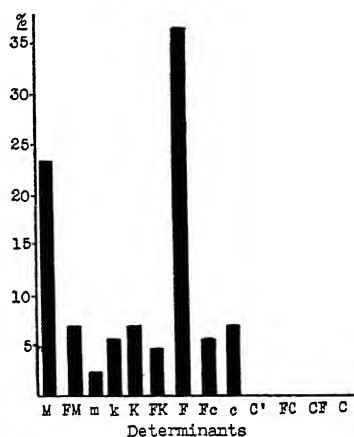
MEDICAL STUDENTS
(College Sub-group 1)
108 Subjects

CARD VII
239 Responses



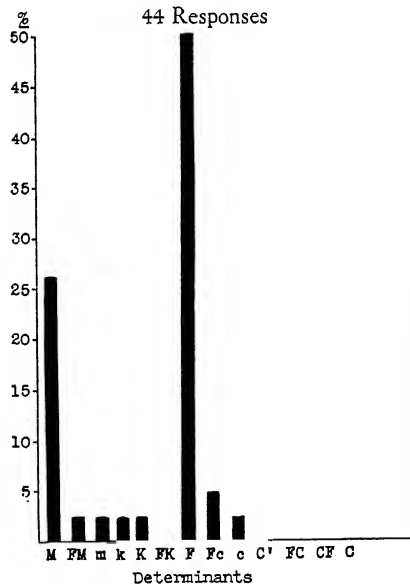
NAVAL AVIATION CADETS IN TRAINING
(College Sub-group 3)
45 Subjects

CARD VII
86 Responses



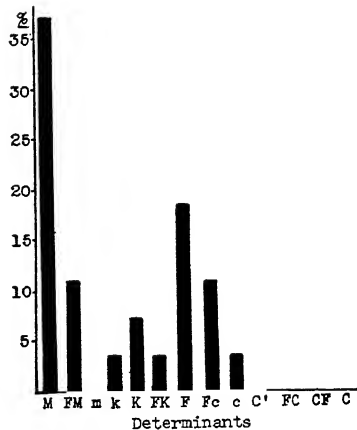
MALE STUDENTS
(College Sub-group 4)
19 Subjects

CARD VII
44 Responses



FEMALE STUDENTS
(College Sub-group 5)
12 Subjects

CARD VII
26 Responses

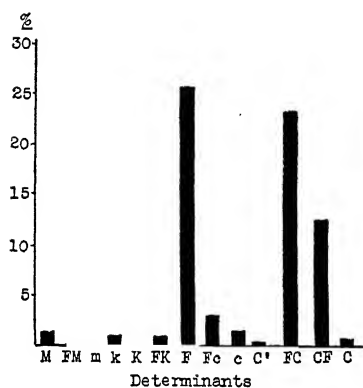


Card VII.—The F% in the female students is appreciably lower than in the other three groups. C' again characterizes the records of the male students.

LARGE SCALE RORSCHACH TECHNIQUES

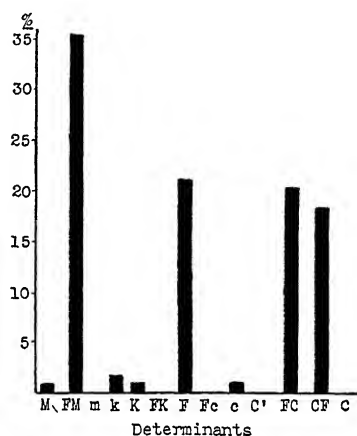
MEDICAL STUDENTS
(College Sub-group 1)
108 Subjects

CARD VIII
310 Responses



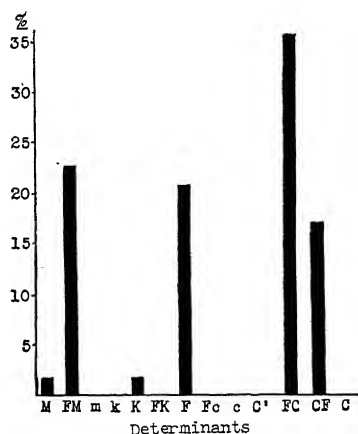
NAVAL AVIATION CADETS IN TRAINING
(College Sub-group 3)
45 Subjects

CARD VIII
101 Responses



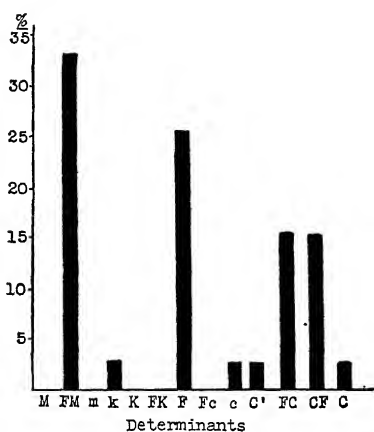
MALE STUDENTS
(College Sub-group 4)
19 Subjects

CARD VIII
53 Responses



FEMALE STUDENTS
(College Sub-group 5)
12 Subjects

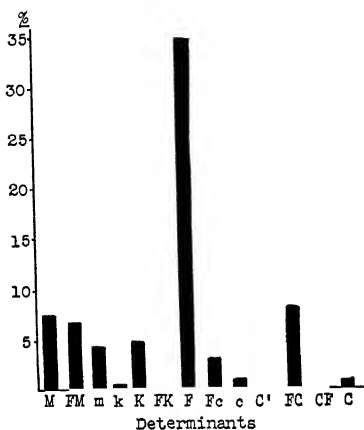
CARD VIII
37 Responses



Card VIII.—This card produces essentially similar psychograms in all four groups.

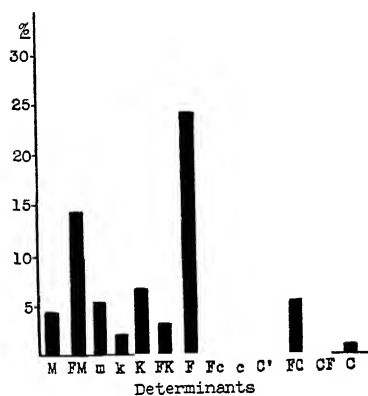
MEDICAL STUDENTS
(College Sub-group 1)
108 Subjects

CARD IX
300 Responses



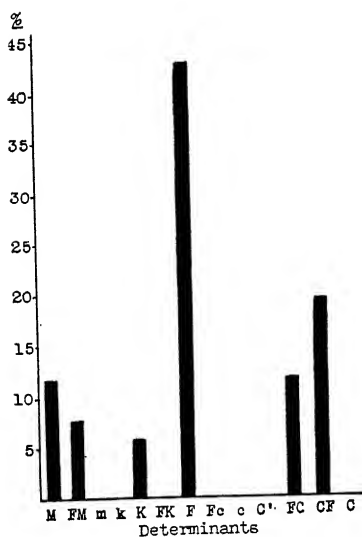
NAVAL AVIATION CADETS IN TRAINING
(College Sub-group 3)
45 Subjects

CARD IX
85 Responses



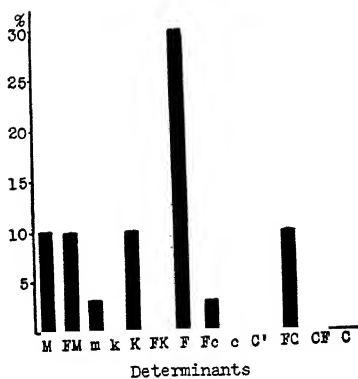
MALE STUDENTS
(College Sub-group 4)
19 Subjects

CARD IX
50 Responses



FEMALE STUDENTS
(College Sub-group 5)
12 Subjects

CARD IX
30 Responses

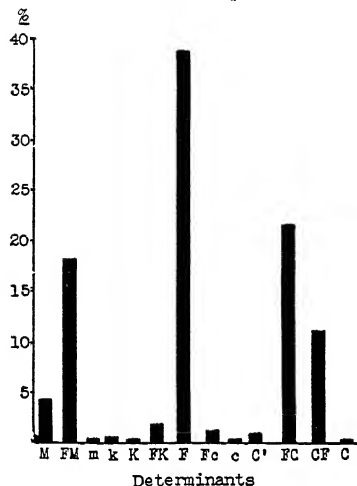


Card IX.—Essentially similar psychograms. The fact that the CF% is greater than the F% in the aviation cadets may be of interest.

LARGE SCALE RORSCHACH TECHNIQUES

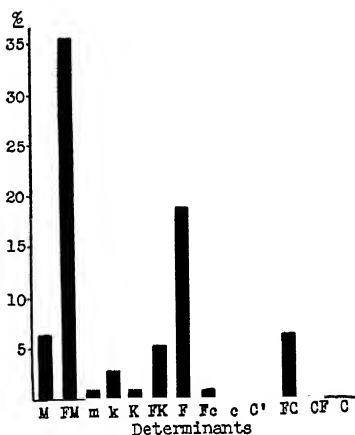
MEDICAL STUDENTS
(College Sub-group 1)
108 Subjects

CARD X
423 Responses



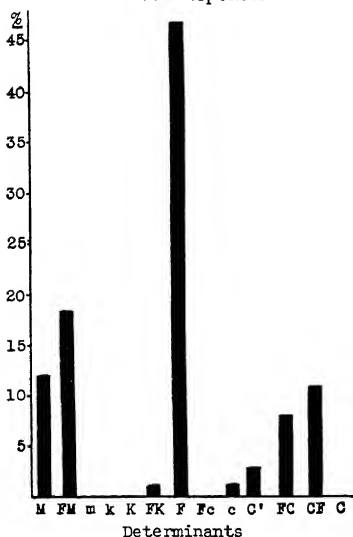
NAVAL AVIATION CADETS IN TRAINING
(College Sub-group 3)
45 Subjects

CARD X
112 Responses



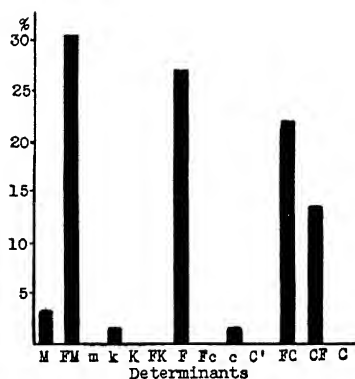
MALE STUDENTS
(College Sub-group 4)
19 Subjects

CARD X
75 Responses



FEMALE STUDENTS
(College Sub-group 5)
12 Subjects

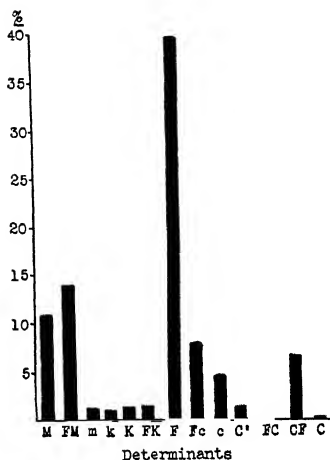
CARD X
59 Responses



Card X.—Again a marked dominance of CF responses in the aviation cadets. FM in this group is also noticeably higher than the F.

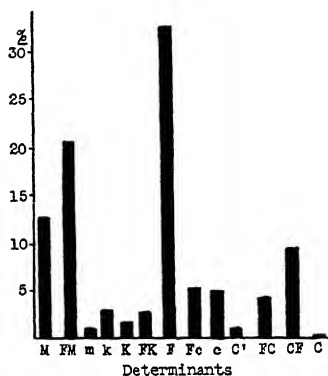
MEDICAL STUDENTS
(College Sub-group 1)
108 Subjects

COMPOSITE FOR ALL CARDS
3055 Responses



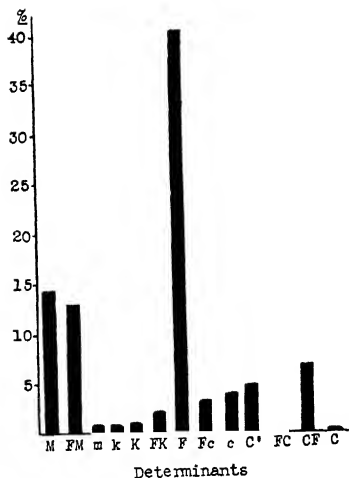
NAVAL AVIATION CADETS IN TRAINING
(College Sub-group 3)
45 Subjects

COMPOSITE FOR ALL CARDS
966 Responses



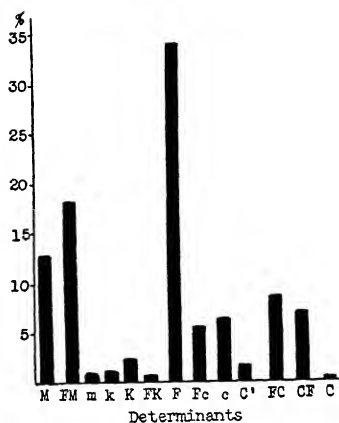
MALE STUDENTS
(College Sub-group 4)
19 Subjects

COMPOSITE FOR ALL CARDS
496 Responses



FEMALE STUDENTS
(College Sub-group 5)
12 Subjects

COMPOSITE FOR ALL CARDS
324 Responses



COMPOSITE PSYCHOGRAM

CF dominates FC in the aviation cadets. FM is greater than M in all groups except one where the difference is negligible.

SECTION VII

Percentage Tables of the Distribution of Responses According to Determinants

TABLE I

Summary of Distribution of Responses According to Determinants

COMPOSITE FOR ALL CARDS

(Percentages)

DETERMINANTS	COLLEGE GROUP	ADULTS	PRISON INMATES	PSYCHOTICS AND PSYCHOPATHIC PERSONALITIES
M	12.7	9.1	11.7	9.9
FM	16.3	5.5	15.7	7.7
m	1.3	1.8	2.5	3.0
k	1.6	1.1	2.4	1.8
K	1.6	1.4	.8	1.9
FK	2.1	2.7	1.0	1.7
F	36.2	54.3	42.3	45.3
Fc	6.6	4.2	4.0	3.3
c	4.8	4.1	5.7	6.0
C'	1.8	2.1	1.1	2.7
FC	7.2	7.0	4.5	4.2
CF	7.4	6.5	8.1	11.9
C	.3	.2	.1	.5

TABLE II

Card by Card

Distribution of Responses According to Determinants

COLLEGE AGE GROUP

(Percentages)

DETERMINANTS	CARDS									
	I	II	III	IV	V	VI	VII	VIII	IX	X
M	6.7	20.3	41.3	6.6	12.3	.9	26.1	1.8	9.9	5.9
FM	14.7	20.5	11.3	8.3	27.3	5.5	8.8	30.8	8.0	24.6
m	.3	2.6	.5	2.0	.2	2.2	2.1	.2	3.5	.3
k	3.0	.7	1.0	4.6	.4	1.5	1.9	1.1	.9	1.2
K	.3	.7	0	2.8	.8	1.5	4.5	.3	5.8	.4
FK	1.3	3.9	.3	1.4	1.2	6.0	3.3	.7	.5	2.6
F	67.4	29.0	26.3	40.6	45.9	29.2	39.3	22.6	31.5	31.7
Fc	2.1	1.8	.8	16.0	6.7	28.4	8.4	1.8	1.9	.9
c	2.7	.9	.2	15.8	3.0	20.3	4.1	1.3	.7	.4
C'	1.4	4.2	1.3	2.0	2.2	4.4	1.4	.3	.4	.9
FC		4.4	13.2					22.9	8.1	17.2
CF		10.1	3.0					15.5	28.0	13.8
C		.7	.7					.7	.7	.3

TABLE III
Card by Card
Distribution of Responses According to Determinants
 ADULTS
 (Percentages)

DETERMINANTS	CARDS									
	I	II	III	IV	V	VI	VII	VIII	IX	X
M	.8	24.5	26.4	10.7	8.2	1.0	10.2	0	2.5	2.9
FM	3.4	9.4	.8	2.7	11.3	2.9	8.2	11.2	5.1	3.6
m	3.4	0	4.0	1.8	1.0	3.8	2.0	0	0	.7
k	4.2	.9	.8	0	0	1.0	1.0	1.1	0	1.4
K	.8	1.9	0	0	1.0	1.0	5.1	0	3.8	1.4
FK	.8	0	0	1.8	2.1	7.7	12.2	0	0	2.9
F	80.5	42.5	44.0	63.4	69.1	34.6	50.0	37.1	53.2	62.1
Fc	.8	.9	.8	10.7	1.0	20.2	5.1	2.2	1.3	0
c	1.7	.9	0	8.0	1.0	23.1	4.1	0	3.8	0
C'	3.4	3.8	.8	.9	5.2	4.8	2.0	0	0	0
FC		3.8	17.6					36.0	8.9	7.1
CF		11.3	4.8					12.4	21.5	16.4
C		0	0					0	0	1.4

TABLE IV
Card by Card
Distribution of Responses According to Determinants
 PRISON INMATES
 (Percentages)

DETERMINANTS	CARDS									
	I	II	III	IV	V	VI	VII	VIII	IX	X
M	3.3	14.1	50.	7.5	10.	0	25.9	0	5.1	5.9
FM	11.0	28.2	11.4	7.5	18.6	1.6	10.3	37.7	10.2	17.8
m	1.1	5.6	0	4.5	1.4	8.1	5.2	1.4	0	0
k	2.2	1.4	0	13.4	0	0	3.4	0	5.1	0
K	0	0	1.4	1.5	0	4.8	1.7	0	0	0
FK	1.1	1.4	0	0	0	3.2	1.7	1.4	0	1.0
F	75.8	35.2	21.4	41.8	64.3	17.7	41.4	23.2	45.8	43.6
Fc	1.1	0	0	10.4	1.4	22.6	8.6	0	1.7	0
c	2.2	1.4	0	13.4	4.3	40.3	1.7	0	0	0
C'	2.2	2.8	0	0	0	1.6	0	2.9	0	1.0
FC		0	11.4					13.0	3.4	12.9
CF		9.9	4.3					20.3	28.8	16.8
C		0	0					0	0	1.0

TABLE V

*Card by Card**Distribution of Responses According to Determinants*

PSYCHOTICS AND PSYCHOPATHIC PERSONALITIES
(Percentages)

DETERMINANTS	CARDS									
	I	II	III	IV	V	VI	VII	VIII	IX	X
M	6.7	21.3	36.1	2.3	6.5	0	6.8	0	12.0	6.1
FM	2.5	11.1	4.1	2.3	13.0	6.0	6.8	14.3	4.3	11.5
m	4.2	2.8	1.0	6.8	0	4.8	2.7	.9	4.3	2.3
k	2.5	.9	0	6.8	0	1.2	4.1	1.8	1.1	.8
K	0	0	0	3.4	0	6.0	2.7	.9	5.4	2.3
FK	.8	3.7	1.0	2.3	0	3.6	5.4	0	1.1	.8
F	68.1	38.9	35.1	43.2	74.0	31.0	62.2	40.2	25.0	40.5
Fc	5.9	0	0	4.5	1.3	20.2	0	2.7	0	0
c	5.9	1.9	0	21.6	2.6	23.8	6.8	0	3.3	.8
C'	3.4	2.8	3.1	6.8	2.6	3.6	2.7	1.8	0	1.5
FC		2.8	8.2					12.5	5.4	9.2
CF		14.8	11.3					23.2	34.8	24.4
C		0	0					1.8	3.3	0

TABLE VI

Summary of Distribution of Responses According to Determinants

COMPOSITE FOR ALL CARDS
COLLEGE AGE SUB-GROUPS
(Percentages)

DETERMINANTS	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
M	11.1	16.6	12.6	14.3	12.8
FM	14.0	20.3	20.5	12.9	18.3
m	1.4	1.5	1.2	.8	.9
k	1.1	2.4	3.0	.8	1.2
K	1.5	1.6	1.9	1.0	2.4
FK	1.6	3.8	2.6	2.2	.6
F	39.9	26.9	32.4	40.4	34.1
Fc	8.0	5.6	5.3	3.4	5.5
c	4.6	5.1	5.1	4.0	6.4
C'	1.5	1.8	1.3	4.8	1.8
FC	8.3	5.6	4.3	8.6	8.5
CF	6.7	8.2	9.5	6.6	7.0
C	.3	.5	.2	.2	.3

TABLE VII
Card by Card
Distribution of Responses According to Determinants
 MEDICAL STUDENTS
 (Sub-group 1)
 (Percentages)

DETERMINANTS	CARDS									
	I	II	III	IV	V	VI	VII	VIII	IX	X
M	4.1	17.0	36.1	6.1	12.7	1.6	24.4	1.6	7.8	4.4
FM	10.0	21.5	10.6	8.2	20.8	3.9	9.1	29.8	6.8	18.1
m	.6	3.1	.3	2.4	.4	1.6	1.7	0	4.2	.2
k	1.9	0	.6	4.4	.4	1.9	.4	1.0	.3	.5
K	.3	.3	0	4.4	.8	1.3	4.1	0	4.9	.2
FK	.6	2.4	0	2.0	1.2	4.5	2.1	1.0	0	2.0
F	76.2	34.9	29.6	38.1	49.8	29.8	43.4	25.6	34.7	38.7
Fc	3.4	2.1	1.2	19.0	8.5	31.4	9.9	2.9	3.2	1.5
c	1.9	1.0	0	13.9	4.2	19.4	4.1	1.6	1.0	.2
C'	.9	3.8	.6	1.4	1.2	4.5	.8	.3	0	1.2
FC		5.5	16.5					23.3	8.1	21.6
CF		8.0	3.4					12.3	28.2	11.0
C		.3	.9					.6	.6	.2

TABLE VIII
Card by Card
Distribution of Responses According to Determinants
 NURSES IN TRAINING (GROUP RECORDS)
 (Sub-group 2)
 (Percentages)

DETERMINANTS	CARDS									
	I	II	III	IV	V	VI	VII	VIII	IX	X
M	10.9	30.4	57.0	2.2	9.4	0	30	3.8	22.4	7.9
FM	23.6	18.5	11.8	12.1	40.0	4.8	12.2	32.1	4.7	37.3
m	0	1.1	2.2	3.3	0	3.8	3.3	.9	1.2	0
k	6.4	0	1.1	6.6	1.2	1.9	1.1	.9	2.4	2.4
K	0	1.1	0	2.2	1.2	1.9	3.3	0	7.1	.8
FK	2.7	9.8	2.2	1.1	2.4	7.6	6.7	.9	0	4.0
F	51.8	13.0	17.2	41.8	36.5	28.6	32.2	15.1	21.2	13.5
Fc	0	2.2	0	14.2	3.5	26.7	7.8	1.9	0	0
c	3.6	1.1	0	16.5	3.5	21.9	2.2	.9	1.2	0
C'	.9	6.5	3.2	0	2.4	2.9	1.1	0	2.4	0
FC		1.1	5.4					20.8	8.2	15.9
CF		13.0	0					21.7	28.2	17.5
C		2.1	0					.9	1.2	.8

TABLE IX
Card by Card
Distribution of Responses According to Determinants
 NAVAL AVIATION CADETS IN TRAINING
 (Sub-group 3)
 (Percentages)

DETERMINANTS	CARDS									
	I	II	III	IV	V	VI	VII	VIII	IX	X
M	5.8	16.3	46.5	11.7	13.6	0	23.5	1.0	4.4	6.3
FM	19.2	20.9	13.9	8.5	36.4	9.5	7.1	35.6	14.3	35.7
n	0	3.5	0	0	0	1.1	2.4	0	5.5	.9
k	3.3	4.7	3.0	5.3	0	1.1	5.9	1.9	2.2	2.7
K	.8	2.3	0	0	0	2.1	7.1	1.0	6.6	.9
FK	1.7	4.7	0	0	0	6.3	4.7	0	3.3	5.4
F	62.5	20.9	23.8	34.0	46.6	31.6	36.5	21.2	24.2	18.8
Fc	1.7	0	1.0	17.0	2.3	26.3	5.9	0	0	.9
c	1.7	1.2	1.0	21.3	0	20.0	7.1	1.0	0	0
C'	3.3	4.7	0	2.1	1.1	2.1	0	0	0	0
FC		4.7	5.0					20.2	5.5	6.3
CF		16.3	5.0					18.3	33.0	22.3
C		0	1.0					0	1.1	0

TABLE X
Card by Card
Distribution of Responses According to Determinants
 MALE COLLEGE STUDENTS
 (Sub-group 4)
 (Percentages)

DETERMINANTS	CARDS									
	I	II	III	IV	V	VI	VII	VIII	IX	X
M	12.2	22.4	40.4	8.0	13.5	0	26.2	1.9	11.8	12.0
FM	18.4	18.4	4.3	2.0	27.0	8.2	2.4	22.6	7.8	17.3
m	0	0	0	2.0	0	4.1	2.4	0	0	0
k	2.0	0	0	4.0	0	0	2.4	0	0	0
K	0	0	0	0	0	0	2.4	1.9	5.9	0
FK	2.0	2.0	0	2.0	2.7	12.2	0	0	0	1.3
F	61.2	34.7	25.5	56.0	43.2	22.4	50.0	20.8	43.1	46.7
Fc	0	4.1	0	6.0	2.7	18.4	4.8	0	0	0
c	2.0	0	0	12.0	0	22.4	2.4	0	0	1.3
C'	2.0	2.0	6.4	8.0	10.8	12.2	7.1	0	0	2.7
FC		6.1	19.1					35.8	11.8	8.0
CF		8.2	4.3					17.0	19.6	10.7
C		2.0	0					0	0	0

TABLE XI

*Card by Card**Distribution of Responses According to Determinants*

FEMALE COLLEGE STUDENTS

(Sub-group 5)

(Percentages)

DETERMINANTS	CARDS									
	I	II	III	IV	V	VI	VII	VIII	IX	X
M	14.3	30.8	32.3	5.7	11.5	0	37.0	0	10.0	3.4
FM	7.1	19.2	19.4	8.6	19.2	7.4	11.1	33.3	10.0	30.5
m	0	3.8	0	0	0	3.7	0	0	3.3	0
k	3.6	0	0	0	0	0	3.7	2.6	0	1.7
K	0	0	0	2.9	3.8	3.7	7.4	0	10.0	0
FK	0	0	0	0	0	3.7	3.7	0	0	0
F	60.7	34.6	29.0	54.3	38.5	29.6	18.5	25.6	30.0	27.1
Fc	0	0	0	5.7	19.2	25.9	11.1	0	3.3	0
c	14.3	0	0	20.0	3.8	22.2	3.7	2.6	0	1.7
C'	0	3.8	0	2.9	3.8	3.7	3.7	2.6	0	0
FC		0	19.4					15.4	10.0	22.0
CF		7.7	0					15.4	23.3	13.6
C		0	0					2.6	0	0

SECTION VIII

Discussion of Content Categories

IN CHOOSING the categories into which our content was to be divided we tried as far as possible to retain those already in common usage. Eleven of those which we employed are, therefore, the same as those used by Klopfer and Davidson in the latest edition of the *Individual Record Blank* (1). These are: human figures, human details, animal figures, animal details, animal objects, sex, objects, plants, art, architecture, and fire. Several others were only slight modifications of those described by Klopfer; for example, we have used Symbolism in presumably a similar manner to the way in which he used Abstract. Our Natural Objects may be considered the equivalent of Nature except that we also included in it diffuse and formless natural objects such as "smoke," "clouds," "mist," etc. Our Anatomy was divided into Anatomy (animal), Anatomy (embryological), and Anatomy (human). Vista responses when they involved buildings were included under Architecture. In place of Geography we introduced Maps, Charts, Slides, and Photographs. Coastlines, Islands, etc. which were not *seen as maps* were placed with the Natural Objects. X-rays were introduced as a separate category because the frequency of their occurrence in certain groups seemed significant. Signs and Symbols, Color, and Miscellaneous completed our list.

Any list of content categories is bound to be somewhat arbitrary. In analyzing the 8526 responses from this angle we were frequently struck by the fact that a given item might equally well have appeared under either of two headings. Animal Detail, Animal Anatomy, and Animal Object, for example, very frequently laid claim to one and the same item. There were times when we wished for a much more differentiated series particularly when we did not do justice to the Anatomical responses of high scientific caliber by putting them in with others of a vague and hazy sort. However, since our aim was to see how the responses were distributed over these areas of different interests, too many small divisions would have defeated our purpose and made comparison between the groups of subjects too complicated and painstaking a task for the reader.

The graphs and tables of the distribution of content follow in Sections IX and X. The actual responses, listed under their correct locations, and accompanied by figures expressing their frequency, will be found in Part IV.

CONTENT CATEGORIES

Anatomy (animal)
Anatomy (embryological)
Anatomy (human)
Animals
 Winged
 Other than winged
Animal details
Animal objects
Architecture (also involving perspective, including bridges, stairways, entrances, corridors, steps, etc.)
Art
Color
Fire (including flames, explosions, etc.)
Human beings (including caricatures, mythological or fantastic beings, etc.)
Human details
Maps (including charts, photographs, slides)
Natural objects (including diffuse and formless objects—smoke, clouds, mist, shadows, gas, vapor, steam, incense, light, snow, dust, dirt, mud, decay, smudge, smear, geographical concepts, vista, fountains, geysers, water, lakes, waterfalls, landscapes, oil wells, etc.)
Objects (including food, masks, emblems, paint, ink, metal, etc.)
Plants (including fruits, vegetables, etc.)
Sex
Signs and symbols
Symbolism
X-ray
Miscellaneous

REFERENCES

1. Klopfer, Bruno and Kelley, D. M. *The Rorschach technique*. New York, World Book Co., 1942, viii+436 pp.

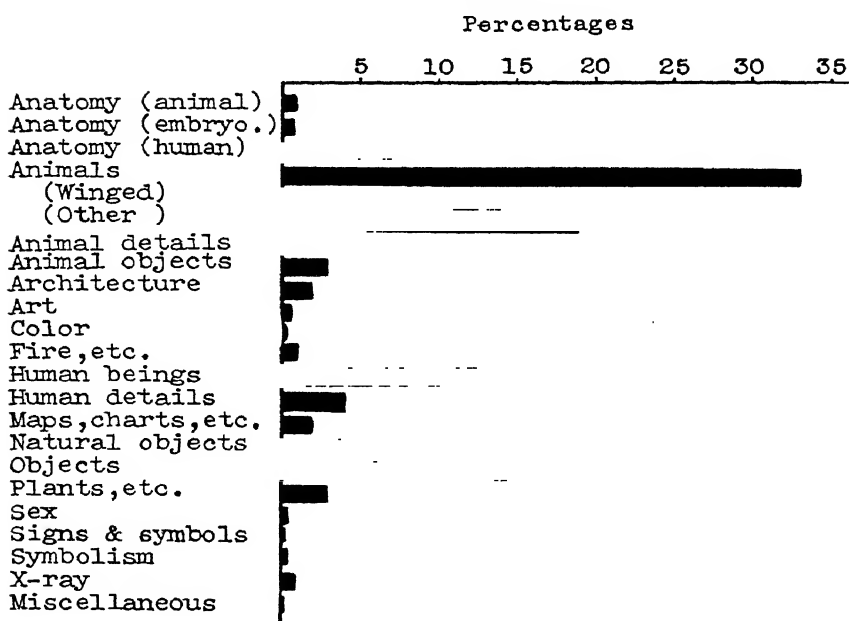
SECTION IX

Graphs of the Distribution of Responses in Terms of Content

DISTRIBUTION OF RESPONSES ACCORDING TO CONTENT

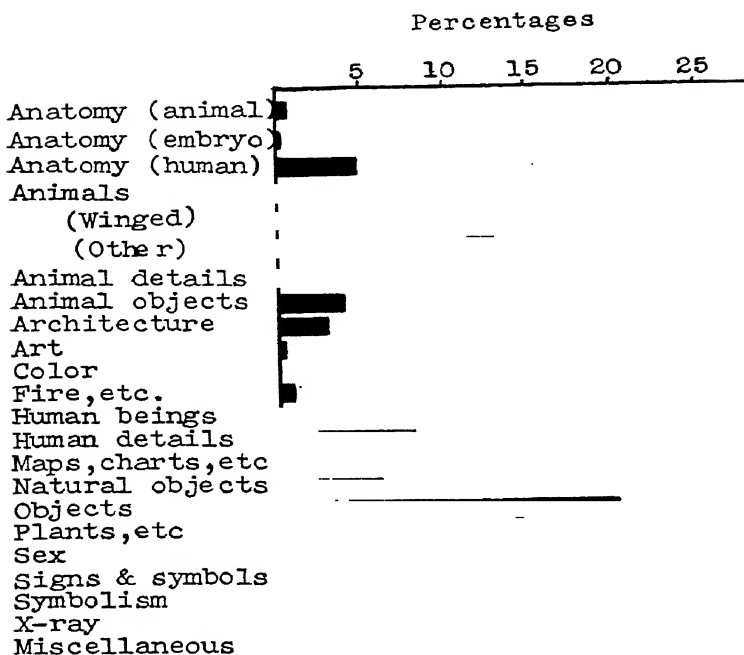
Composite for all cards

COLLEGE AGE GROUP



DISTRIBUTION OF RESPONSES ACCORDING TO CONTENT
Composite for all cards

ADULTS

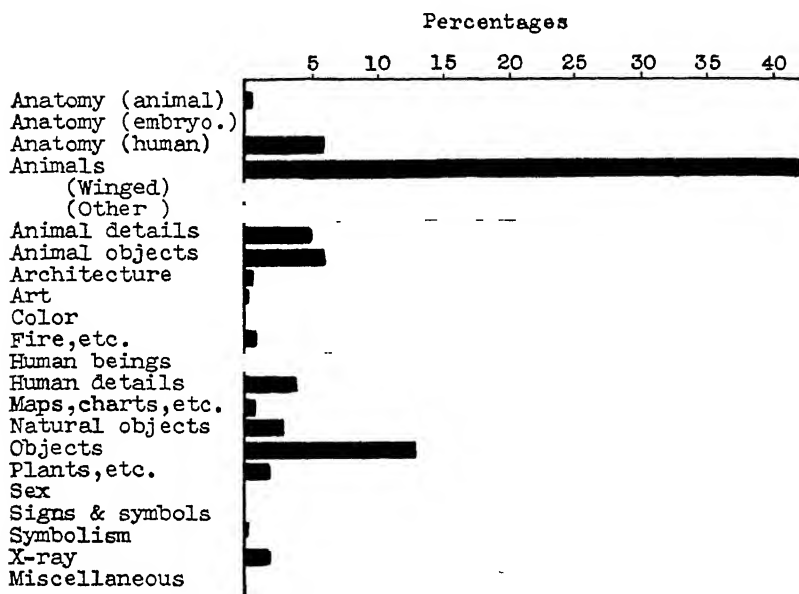


LARGE SCALE RORSCHACH TECHNIQUES

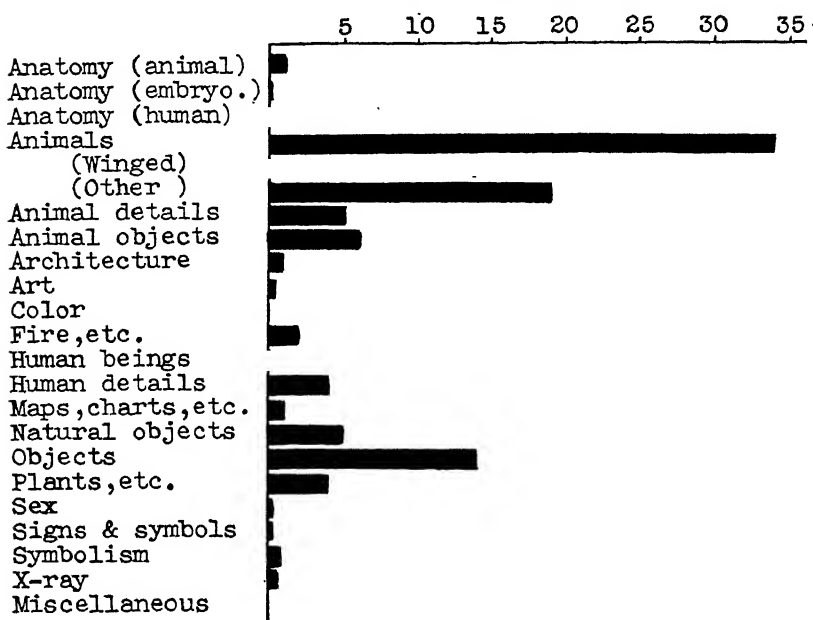
DISTRIBUTION OF RESPONSES ACCORDING TO CONTENT

Composite for all cards

PRISON INMATES



PSYCHOTICS AND PSYCHOPATHIC PERSONALITIES



SECTION X

Percentage Tables of the Distribution of Responses in Terms of Content

TABLE I

Summary of Distribution of Responses According to Content
COMPOSITE FOR ALL CARDS
(Percentages)

CONTENT	COLLEGE AGE GROUP	ADULTS	PRISON INMATES	PSYCHOTICS AND PSYCHO- PATHS
Anatomy (animal)	1	.6	.5	1
Anatomy (embryological)	.6	.2	0	.1
Anatomy (human)	9	5	6	9
Animals	33	25	42	34
Winged	.14	12	21	15
Other than winged	19	13	21	19
Animal details	5	9	5	5
Animal objects	3	4	6	6
Architecture	2	3	.7	.9
Art	.5	.3	.2	.4
Color	.2	0	0	0
Fire, etc.	1	.9	1	2
Human beings	13	10	13	11
Human details	4	8	4	4
Maps, charts, etc.	2	4	1	1
Natural objects	5	6	3	5
Objects	15	20	13	14
Plants, etc.	3	3	3	4
Sex	.2	.1	0	.2
Signs and symbols	.1	.2	0	.2
Symbolism	.2	0	.1	.8
X-ray	.7	.5	2	.7
Miscellaneous	.1	.1	0	0

TABLE II
Card by Card
Distribution of Responses According to Content
 COLLEGE AGE GROUP
 (Percentages)

CONTENT	CARDS									
	I	II	III	IV	V	VI	VII	VIII	IX	X
Anatomy (animal)	.7	.1	.6	2	0	1	.2	3	1	.8
Anatomy (embryo.)	0	.3	.3	2	0	2	.2	.8	1	.3
Anatomy (human)	23	5	9	6	3	4	6	7	15	8
Animals	36	32	29	22	57	16	11	44	18	52
Winged	28	8	19	8	48	6	3	6	1	11
Other than winged	8	24	9	15	9	10	8	38	17	41
Animal details	7	3	3	12	9	5	5	3	7	2
Animal objects	.6	.5	0	12	.8	17	.6	.9	.5	2
Architecture	.1	4	.3	.8	.4	4	.8	2	.3	4
Art	0	.1	.3	0	0	.1	.4	.9	1	2
Color	0	.9	0	0	0	.1	0	.4	.1	.2
Fire, etc.	.1	4	.7	.3	0	.5	0	.6	6	.1
Human beings	8	21	42	7	12	1	26	2	11	7
Human details	2	7	2	5	6	3	11	2	7	2
Maps, etc.	2	2	.5	2	.2	1	3	4	3	2
Natural objects	3	4	.6	4	3	10	14	3	8	4
Objects	15	14	10	15	7	30	20	17	12	7
Plants, etc.	.4	.5	.8	4	1	4	.8	6	6	5
Sex	.1	.9	.3	.3	0	.3	.4	0	.1	.1
Signs & Symbols	.1	0	.3	0	1	0	0	0	.5	0
Symbolism	0	.3	.5	0	0	0	0	.4	.7	.3
X-ray	.7	.1	.5	3	.2	.3	.2	.6	.3	.6
Miscellaneous	0	.1	0	.1	.4	.7	0	0	.1	.1

TABLE III
Card by Card
Distribution of Responses According to Content
 ADULTS
 (Percentages)

CONTENT	CARDS									
	I	II	III	IV	V	VI	VII	VIII	IX	X
Anatomy (animal)	0	0	0	.9	0	0	0	6	1	0
Anatomy (embryo.)	0	0	0	0	0	.9	0	0	1	.7
Anatomy (human)	15	3	10	4	1	0	3	7	8	4
Animals	32	10	27	9	40	13	8	50	15	40
Winged	26	4	19	5	32	6	4	17	1	3
Other than winged	6	6	8	5	7	7	4	33	14	37
Animal details	12	5	4	19	23	6	4	1	19	3
Animal objects	2	2	0	8	3	21	1	1	1	2
Architecture	0	4	0	2	1	7	6	0	0	8
Art	0	0	0	0	0	0	2	1	0	.7
Color	0	0	0	0	0	0	0	0	1	0
Fire, etc.	0	3	0	.9	1	2	1	0	1	.7
Human beings	2	27	28	11	8	.9	8	0	3	4
Human details	6	17	6	14	3	4	17	2	5	2
Maps, etc.	3	3	3	5	2	0	10	2	5	9
Natural objects	6	4	0	0	8	9	19	0	5	9
Objects	20	22	21	25	8	25	19	.18	31	14
Plants, etc.	0	2	0	2	0	7	1	10	4	4
Sex	0	0	0	0	0	2	0	0	0	0
Signs & symbols	0	0	0	0	1	.9	0	1	0	0
Symbolism	0	0	0	0	0	0	0	0	0	0
X-ray	3	0	.8	0	0	.9	0	1	0	0
Miscellaneous	0	0	0	0	0	.9	0	0	0	0

TABLE IV
Card by Card
Distribution of Responses According to Content
PRISON INMATES
(Percentages)

[illegible]

TABLE V
Card by Card
Distribution of Responses According to Content
PSYCHOTICS AND PSYCHOPATHIC PERSONALITIES
(Percentages)

[illegible]

SECTION XI

Lists of Popular Answers, Rejections, Distribution of Anatomical Answers, and Percentage Distribution of Answers to Each Card

Popular Answers Defined

THE FOUR lists of responses that follow which we have designated as "*populars*" were derived in the following way: The number of answers from any one content category given to any one location has been expressed as a percentage of the number of persons in the group concerned. In dealing with any one location an answer has been considered *popular* when it was given in 25% of the cases or over. This means that the lists include responses given by one out of every four subjects in that particular group and have been subdivided to show the answers given by 1 out of every 3 subjects and those given by 1 out of every 2 subjects.¹

TABLE I
Popular Responses
COLLEGE AGE GROUP

	CARD	LOCATION	RESPONSE	No. GIVING RESPONSE	% GROUP GIVING RESPONSE
(1 in 2)	V	W	Winged animal	219	98
	III	W'	Human beings	194	87
	VIII*	D1	Animals	179	80
	I	W	Winged animal	115	51
(1 in 3)	X**	D1	Animals	104	46
	I	W	Human anatomy	86	38
	II	W	Human beings	86	38
	II	W'	Animals	84	38
	VII	W	Human beings	74	33
(1 in 4)	VI	D2	Object	67	30
	IV	W	Animal object	61	27
	VI	W'	Animal object	59	26

* Winged animals have been omitted.

** Winged animals have been included.

¹ There is one case in which the figure is over 100%. This means that one or two individuals have given more than one popular answer to this location. (In Card I, "bat" and "butterfly" may have been given by some subjects.)

TABLE II
Popular Responses
ADULTS

	CARD	LOCATION	RESPONSE	No. GIVING RESPONSE	% GROUP GIVING RESPONSE
(1 in 2)	V	W	Winged animal	29	85
	II	W	Human beings	23	68
	III	W'	Human beings	23	68
	VIII*	D1	Animals	23	68
	I	W	Winged animal	17	50
	III	D1	Winged animal	17	50
	X**	D18	Animals	17	50
(1 in 3)	VI	W'	Animal object	15	44
	I	W	Object	13	38
	IV	D2	Object	13	38
	II	S	Object	12	35
	IV	D1	Animal detail	12	35
(1 in 4)	VII	D3	Human detail	11	32
	X	D1	Animals	11	32
	III	W	Human beings	10	29
	IV	W	Human being	10	29
	VIII	W	Object	10	29
	II	d4	Human detail	9	26
	IV	W	Animal object	9	26
	VIII	D2	Winged animal	9	26
	IX	W	Object	9	26

* Winged animals have been omitted.

** Winged animals have been included.

TABLE III
Popular Responses
PRISON INMATES

	CARD	LOCATION	RESPONSE	No. GIVING RESPONSE	% GROUP GIVING RESPONSE
(1 in 2)	V	W	Winged animal	45	110
	I	W	Winged animal	40	98
	VIII	D1	Animals	26	63
	X*	D1	Animals	23	56
(1 in 3)	III	W'	Human beings	20	49
	VI	W'	Animal object	16	39
	III	W	Human beings	14	34
(1 in 4)	III	D1	Butterfly	13	32
	II	W'	Animals	12	29

* Winged animals have been included.

TABLE IV
Popular Responses
 PSYCHOTIC AND PSYCHOPATHIC PERSONALITIES

	CARD	LOCATION	RESPONSE	No. GIVING RESPONSE	% GROUP GIVING RESPONSE
(1 in 2)	V	W	Winged animal	41	100
	I	W	Winged animal	30	73
	VIII*	D1	Animals	28	68
	III	W	Human beings	24	59
	X	D1	Animals	21	51
(1 in 3)	II	W	Human beings	20	49
	IV	W	Animal object	18	46
	VI	W	Animal object	14	34
(1 in 4)	IV	W	Animal	11	27

* Winged animals have been omitted.

Although the same criterion was used to derive each of these four lists, it is interesting to notice to what extent they vary. For example, the list for the adult group is twice as long as that for the psychotics and that for the prison inmates. Moreover, it contains a much greater variety of locations, including even one d and one S area. Since the records of this adult group when considered as individual performances were unquestionably superior, characterized by the large number of original responses and the high quality of the form perception, it is interesting to see that such a group also tends to extend the range of its popular responses rather than concentrating them in the larger and more obvious areas.

In the college age group, of which approximately 50% were medical students, we find that the Human Anatomy responses in Card I exceed in frequency some responses usually considered as *popular* among all classes of subjects.

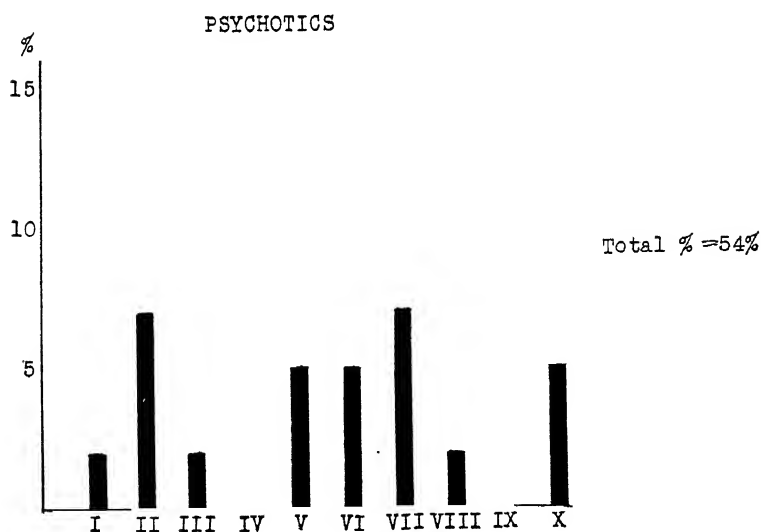
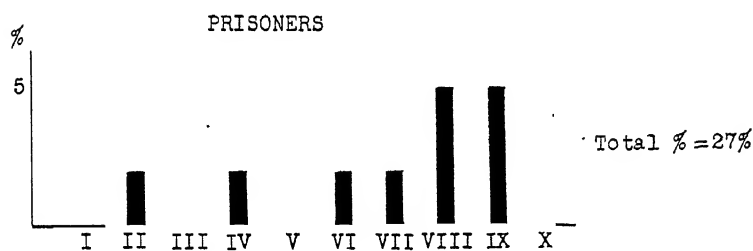
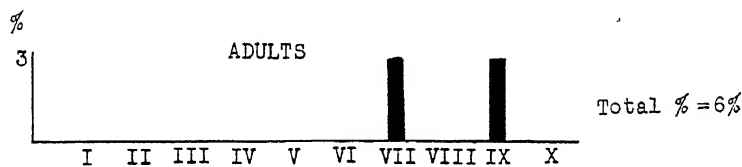
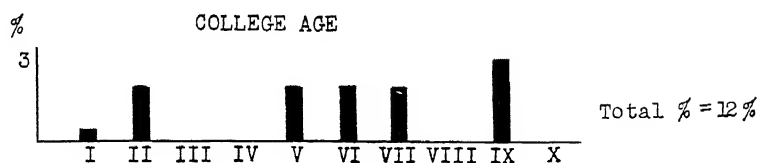
It is also worthy of note that there are only three answers which are given in over 50% of the cases in all four groups. *Popular* answers, therefore, must be considered as less universal in character than one might have supposed, and to vary for the different subjects examined.

Rejected Cards

The graphs on page 135 show the number of failures to any one card expressed as a percentage of the number of persons in the group; that is, the number of persons potentially able to respond to that card.

This brings us at long last to some very striking differences between

DISTRIBUTION OF FAILURES IN THE VARIOUS CARDS



The total scores indicate that failures were found in the records of 12, 6, 27 and 54% of the groups respectively.

the performance of the individuals in the four groups. With the exception of the differences in number and kind of the popular responses, we have, till now, only been able to point to minor discrepancies between our subjects—slight differences in the distribution of the location of responses, slight differences in the use of the various determinants. But, by and large, our four groups of subjects have not appeared very different one from the other. Rather what has been shown are the characteristics of the cards per se which emerge despite the differences in the personalities of the subjects.

Considering the failures, or the rejections on the various cards, however, we can draw different conclusions. The much greater incidence of failures in the psychotic group is all the more striking in view of the essential similarity of their performance, card for card, to the other groups when locations and determinants are considered.

We cannot say that such a distribution of failures is in anyway characteristic of psychotic patients as no comparable data as derived by the individual method exists for comparison. We can say, however, that the distribution is unlike that which we have found among a large group of psychoneurotic patients,* particularly in the fact that Cards VI and IV, which are often rejected by the neurotics are among the less frequently rejected cards by the psychotics, Card IV as it happens being the only card on which no failure occurred in this group.

The concentration of failures in the last three colored cards among the prison inmates is interesting, particularly in view of the fact that neither Card VIII nor Card X shows any failures in the normal groups. A comparable study to ours recently reported by Lindner and Chapman (1) would show a similar tendency in the prison inmates whose group records these authors analyzed from this angle. Their findings if expressed in a comparable way to ours would show that Cards IX and X are second only to Card VII in the frequency of their rejections.

In conformity with their generally superior performance the number of failures in the Adult group is very small. There are failures in only 6% of the cases. The college age group is also relatively free of rejections.

Considering the rejections in terms of the individual cards, rather than the groups of subjects, it can be seen that Card IX is most likely to be rejected by all groups. At the other extreme stands Card IV with surprisingly infrequent failures.

* Unpublished study by author.

The Distribution of Anatomical Answers

Table V illustrates certain points of interest in regard to the anatomical answers given by the college age group. It will be seen in column 1 that certain cards are more likely to produce anatomical responses than others, Card I, in particular, yielding many such responses while cards V, II, and VII produce few.

In the second and third columns of this table the percentages of these anatomical responses found in the records of the medical students (108 subjects) are compared with those found in the records of the remainder of the group (116 subjects). Provided no additional factor influenced the results, we might expect an equal distribution in each of these columns. That some factor is at work can be seen at a glance. Only in Card VIII do the figures even approximate what would have been expected on a purely arbitrary division. In all other cases one sees preponderance of anatomical answers in the records of the medical students. It would seem clear that familiarity with anatomical concepts and structures, and interest in anatomy courses which are taken during the year clearly leave their mark on the responses given to the ink-blots.

For some reason, however, there has been a reluctance among Rorschach workers to assume such a vocational or training factor. They have tended to interpret anatomical answers in the same way regardless of the background of the individual in whose record they

TABLE V

*Distribution of Anatomical Answers in the Ten Cards**(Medical Students and Non-medical Students)*

CARD	TOTAL NO. OF ANATOMICAL ANSWERS GIVEN BY COLLEGE AGE GROUP (224 Subjects)	% OF ANATOMICAL ANSWERS DERIVED FROM RECORDS OF MEDICAL STUDENTS (108 Subjects)	% OF ANATOMICAL ANSWERS DERIVED FROM RECORDS OF ALL OTHER SUBJECTS (116 Subjects)
I	152	75.0	25.0
II	30	63.3	36.7
III	61	75.4	24.6
IV	56	66.1	33.9
V	15	80.0	20.0
VI	37	75.7	24.3
VII	30	80.0	20.0
VIII	69	55.1	44.9
IX	94	66.0	34.0
X	65	62.7	37.3

appear. These results indicate that one must expect a higher anatomical percentage in the records of persons in whom anatomy is a field of study, and must not attribute to them neurotic or anxiety-indicating features. Hertz in an unpublished study** in 1932 makes a similar observation: "Medical students gave by far the largest number of anatomical terms," and she also concludes that "medical students and nurses show the effect of their specialized education."

Relative Productivity on Each of the Ten Cards

A few remarks may be made about the cards most likely to produce the greatest and least number of responses as recorded in Table VI.

Card X it will be seen leads in the four main groups of subjects with Card I in second and third place. At the other end of the scale Card VII is the card which gives rise to the fewest responses in three of the four groups, and is also low in the list of the fourth group. In view of the relative productivity which occurred in Card II in three of the four groups, the fact that it is low in the college age group would lead us to wonder whether color shock was more pronounced in this group than in the others. This supposition has been borne out in a number of ways.

TABLE VI
*Percentage of Total Number of Responses
Derived from Each Card*

COLLEGE GROUP (5806 Responses)		ADULTS (1052 Responses)		PRISON INMATES (713 Responses)		PSYCHOTICS AND PSYCHOPATHIC RESPONSES (955 Responses)	
Card	%	Card	%	Card	%	Card	%
X	13.6	X	13.1	X	14.0	X	13.9
I	10.9	III	11.6	I	12.9	II	11.5
VIII	10.5	I	11.0	II	10.0	I	11.3
III	10.2	IV	10.5	III	9.8	VIII	11.1
VI	9.7	II	10.0	V	9.8	III	10.2
IV	9.6	VI	9.6	VIII	9.5	IX	9.5
IX	9.5	V	9.1	IV	9.3	VI	8.8
II	9.3	VII	9.1	IX	8.3	IV	8.5
V	8.4	VIII	8.6	VI	8.3	V	8.0
VII	8.3	IX	7.4	VII	8.1	VII	7.2

** Personal communication.

Percentage of Total Number of Responses
College Sub-Groups

MEDICAL STUDENTS		NURSES		NAVAL CADETS		MALE STUDENTS		FEMALE STUDENTS	
Card	%	Card	%	Card	%	Card	%	Card	%
X	13.8	X	12.6	I	12.5	X	15.1	X	18.2
III	10.6	I	11.5	X	11.6	VIII	10.7	VIII	11.4
I	10.5	VIII	11.2	VIII	10.5	{ II	10.1	IV	10.8
VIII	10.1	VI	10.6	III	10.4	{ IX	10.1	III	9.6
IX	9.8	III	9.4	IV	9.8	{ I	9.9	IX	9.3
VI	9.8	{ II	9.1	VI	9.5	{ VI	9.5	I	9.0
{ II	9.5	{ IV	9.1	V	9.1	{ III	9.5	V	8.0
{ IV	9.5	VII	9.0	{ II	8.9	{ IV	9.5	{ VI	8.0
V	8.4	IX	8.8	{ VII	8.9	VII	8.9	{ VII	8.0
VII	7.8	V	8.6	IX	8.8	V	6.9	II	7.7

REFERENCE

1. Lindner, R. M. A further contribution to the group Rorschach. *Rorschach Res. Exch.*, 1943, 7: 7-15.

SECTION XII

Analysis of the Effect of Repetition and Change of Method on Performance

AT THE TIME of our initial presentation of the group Rorschach considerable interest was shown in the differences in the records which might be expected to occur as a result of the new mode of administration. As the method has come into wider usage, however, and has demonstrated its effectiveness as a tool in its own right, much less importance has been attached to these detailed comparative studies.

As we mentioned earlier (Chapter I), such comparisons can only be made by either repeating the test on the same subjects, each time using a different method, or by equating two groups of subjects and administering the test to each group in a different way. In the first case we have to disentangle the effect of repetition per se; in the second, there is always the possibility that the two groups are not as similar in personality or temperament as they appear to be in background, education, intelligence, and the like.

In this section we are presenting comparative material derived from our earlier investigations. In these investigations we separated the two factors of repetition, and change of method, by having four groups of subjects: the control groups repeated the test without change of method; the experimental groups repeated the test with a change of method in the second administration. Referring to table I it will be seen that group A repeated the individual test; B repeated the group test; while C took the individual test first, and repeated with the group procedure; D took the group test first, and repeated with the individual procedure.

In table I it will be seen that there is a consistent shift in the selection of locations. All second, or repeat performances, show a decrease in the whole percentage and a corresponding rise in the other locations. This shift occurs independently of a change of method, and occurs in the same direction, regardless of which method of administration occurs in the second place. Greater preoccupation with the smaller areas in the blots is first and foremost, then, a result of repeating the test.

To some extent it may be said that the individual procedure tends to work in the same direction as repetition; or otherwise stated, that one is apt to get a greater number of whole responses in the group procedure, since a comparison of C and D shows that a more marked shift

occurs (in D) when the individual test is in second place. But the factor of repeating the test is unquestionably the stronger influence.

TABLE I

The Effect of Repetition and Change of Method on the Distribution of Answers According to Location

REPETITION ONLY

Subjects Taking Individual Test Both Times
(20 Subjects)

	LOCATION	% RESPONSES FIRST TIME	% RESPONSES SECOND TIME	% DIFFERENCE
A.	W	44.8	34.6	-10.2
	D	49.3	52.9	3.6
	d	2.4	4.2	1.8
	Dd+S	3.5	8.3	4.8
	dd	0	1.3	1.3
	de	.2	.7	.5
	di	.2	.4	.2
	dr	1.2	2.8	1.6
	S	1.9	3.1	1.2

Subjects Taking Group Test Both Times
(20 Subjects)

B.	W	32.2	19.6	-12.6
	D	54.4	57.8	3.4
	d	4.8	6.5	1.7
	Dd+ S	8.6	16.1	7.5
	dd	.4	2.5	2.1
	de	2.1	4.7	2.6
	di	0	.7	.7
	dr	1.1	2.2	1.1
	S	5.0	5.9	.9

REPETITION AND CHANGE OF METHOD

Subjects Taking Individual Test First, Group Test Second
(20 Subjects)

	LOCATION	% RESPONSES INDIVIDUAL	% RESPONSES GROUP	% DIFFERENCE
C.	W	26.6	20.5	-6.1
	D	51.2	52.6	1.4
	d	9.6	11.0	1.4
	Dd+S	12.6	15.9	3.3
	dd	3.4	2.7	-.7
	de	.6	1.7	1.1
	di	1.6	.9	-.7
	dr	4.4	5.7	1.3
	S	2.6	4.9	2.3

TABLE I (Continued)
Subjects Taking Group Test First, Individual Test Second
(40 Subjects)

	LOCATION	% RESPONSES GROUP	% RESPONSES INDIVIDUAL	% DIFFERENCE
D.	W	50.4	35.1	-15.3
	D	40	50.4	10.4
	d	3.5	6.5	3.0
	Dd+S	6.1	8.0	1.9
	dd	.3	1.3	1.0
	de	0	.6	.6
	di	0	.1	.1
	dr	2.4	2.6	.2
	S	3.4	3.4	0

Table II makes a similar comparison possible between our four groups. In this case the determinants are considered. The outstanding impression from scanning this table, however, is the remarkable similarity between all four groups on first and second performances. Unlike the findings in regard to the locations there is no striking and consistent difference that appears as a result of repetition, except perhaps a slight decrease in CF and FM responses on the second performance. One cannot help but be struck on the other hand by the number of instances in which there is no difference, or virtually no difference, between the figures for the various determinants.

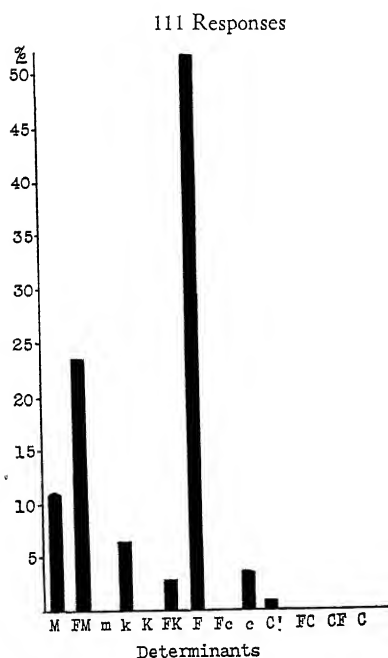
TABLE II
*The Effect of Repetition and Change of Method on the
Distribution of Answers According to Determinants*
(Percentages)

DETER- MINANTS	REPETITION ONLY						REPETITION AND CHANGE OF METHOD					
	Individual			Group			Ind. Group			Group Ind.		
	1st.	2nd.	Diff.	1st.	2nd.	Diff.	1st.	2nd.	Diff.	1st.	2nd.	Diff.
M	15.8	16.0	.2	14.4	11.5	-2.9	10.1	10.5	.4	16.6	14.5	-2.1
FM	23.3	22.3	-1.0	14.4	12.4	-2.0	15.7	15.3	-.4	20.3	17.4	-2.9
m	.5	.4	-.1	.8	.3	-.5	.5	.5	0	1.5	2.4	.9
k	.9	.9	0	.8	.9	.1	2.1	1.4	-.7	2.4	1.0	-1.4
K	.7	.7	0	.9	.7	-.2	1.3	1.5	.2	1.6	2.8	1.2
FK	1.7	1.3	-.4	2.1	3.9	1.8	.8	.8	0	3.8	3.8	0
F	27.8	28.4	.6	39.4	41.9	2.5	41.9	39.6	-2.3	26.9	31.2	4.3
Fc	6.4	6.6	.2	3.8	7.7	3.9	6.2	7.0	.8	5.6	5.1	-.5
c	3.5	3.3	-.2	3.8	2.6	-1.2	4.4	4.0	-.4	5.1	5.1	0
C'	3.1	2.9	-.2	4.5	4.7	.2	2.9	4.4	1.5	1.8	3.5	1.7
FC	7.5	9.2	1.7	8.3	8.3	0	6.2	7.8	1.6	5.6	6.6	1.0
CF	8.0	7.4	-.6	6.4	4.4	-2.0	7.3	6.8	-.5	8.2	6.4	-1.8
C	.7	.6	-.1	.4	.6	.2	.6	.4	-.2	.5	.3	-.2

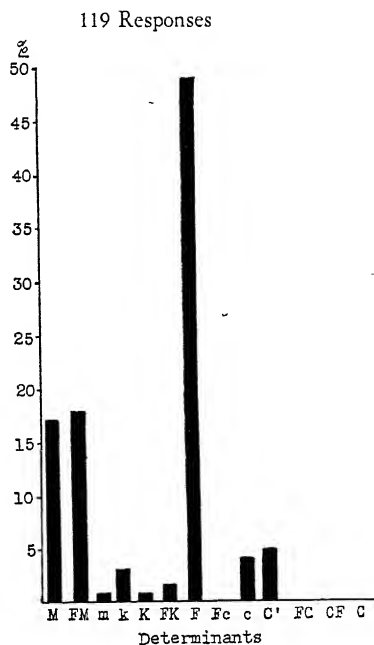
CARD BY CARD COMPARISON OF DISTRIBUTION OF DETERMINANTS IN
GROUP AND INDIVIDUAL TESTS. 40 Nurses in training
(College Age sub-group 2)

In the eleven pairs of graphs which follow, a card by card comparison of the 40 subjects in Group D (group test first, followed by the individual) is made. The composite graphs (on page 149) with all the determinants for all the cards, are extremely similar. Only in a few instances do certain cards reveal slightly different profiles under the two conditions. For further proof of the characteristics of the cards per se these graphs may be compared with those in Section IV.

CARD 1



Derived from Group Records
First Performance

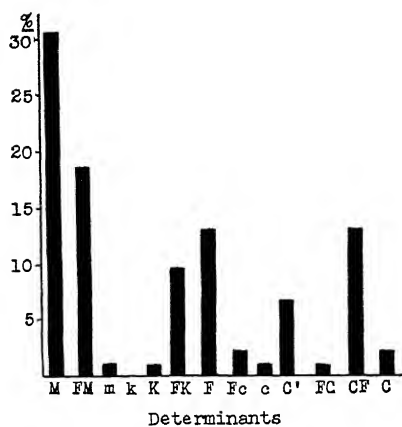


Derived from Individual Records
Repeat Performance

LARGE SCALE RORSCHACH TECHNIQUES

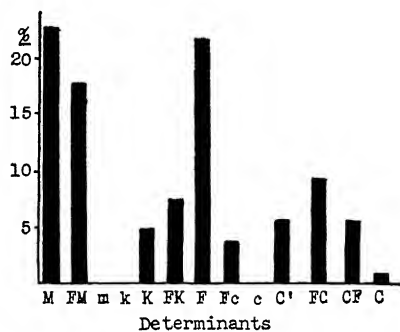
CARD II

88 Responses



Derived from Group Records
First Performance

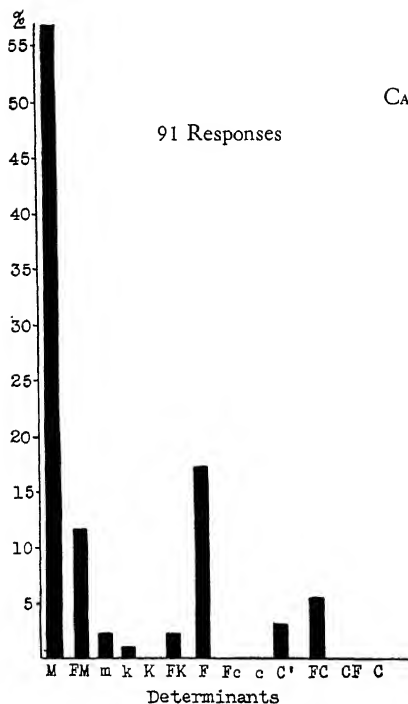
98 Responses



Derived from Individual Records
Repeat Performance

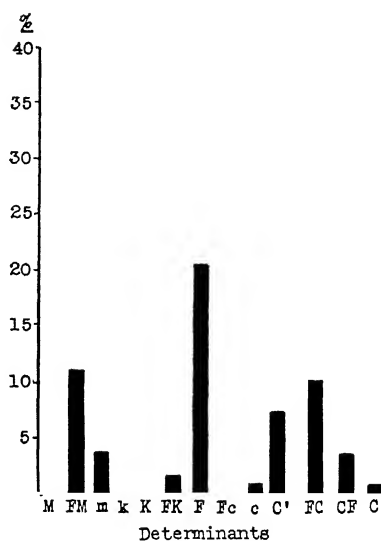
CARD III

91 Responses



Derived from Group Records
First Performance

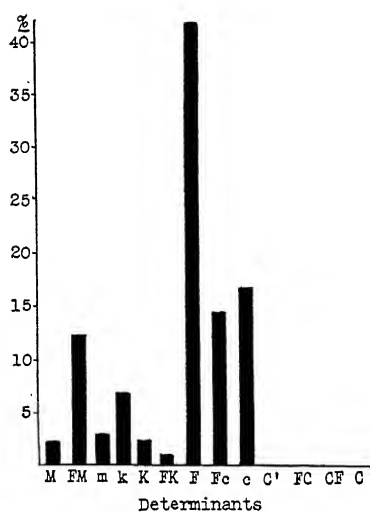
105 Responses



Derived from Individual Records
Repeat Performance

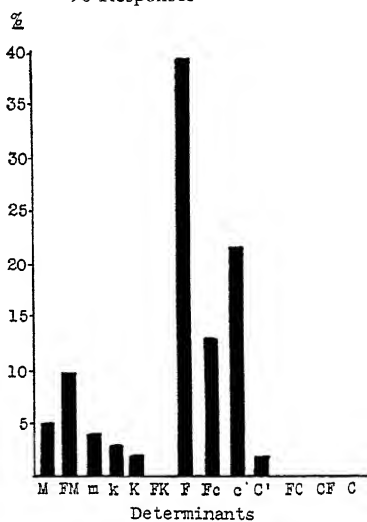
CARD IV

88 Responses



Derived from Group Records
First Performance

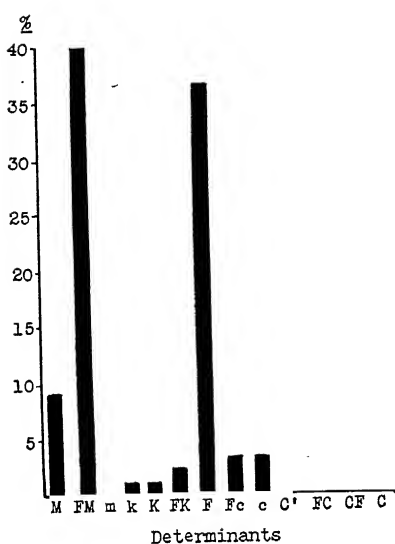
96 Responses



Derived from Individual Records
Repeat Performance

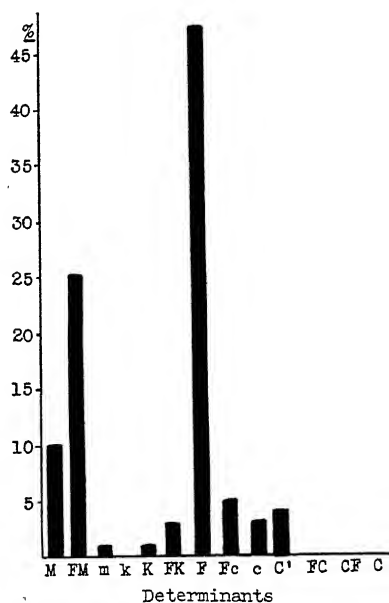
CARD V

83 Responses



Derived from Group Records
First Performance

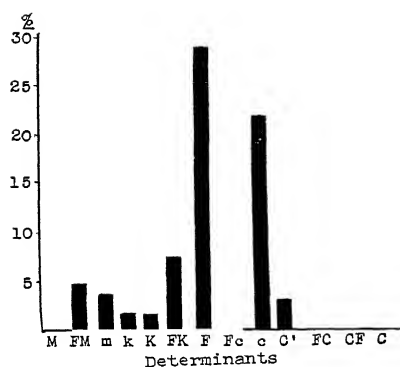
95 Responses



Derived from Individual Records
Repeat Performance

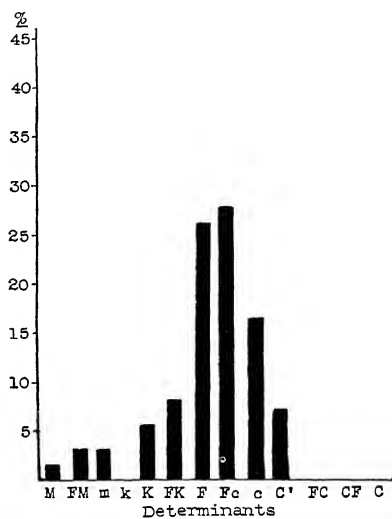
CARD VI

102 Responses



Derived from Group Records
First Performance

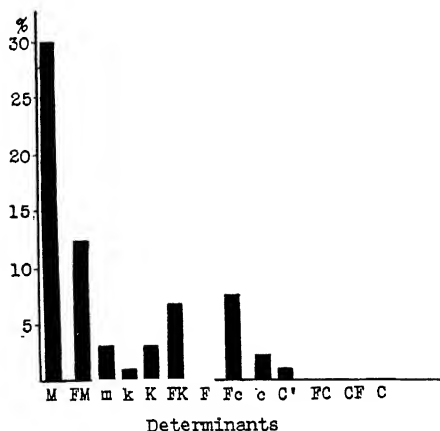
110 Responses



Derived from Individual Records
Repeat Performance

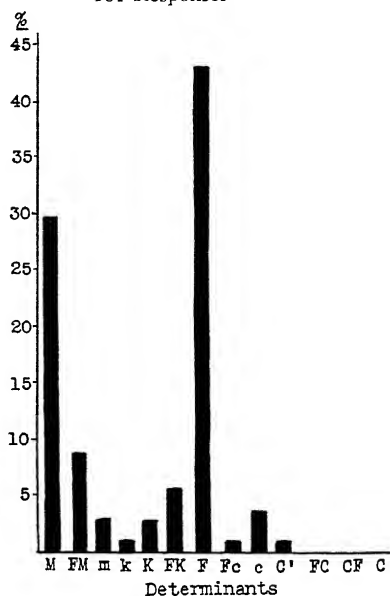
CARD VII

87 Responses



Derived from Group Records
First Performance

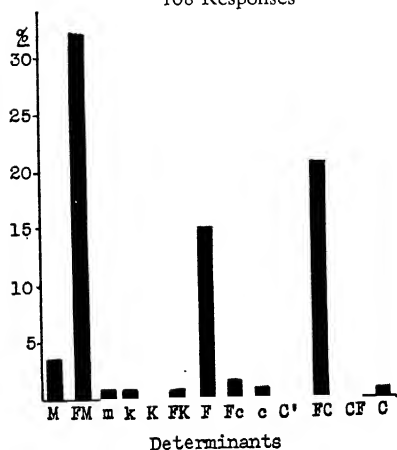
101 Responses



Derived from Individual Records
Repeat Performance

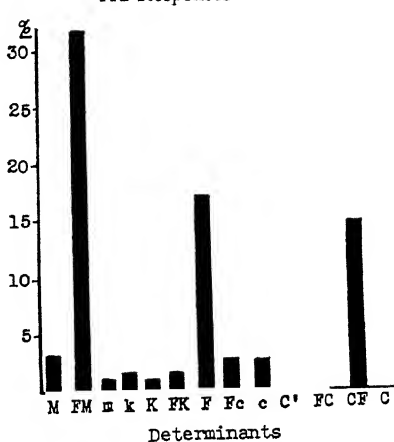
CARD VIII

108 Responses



Derived from Group Records
First Performance

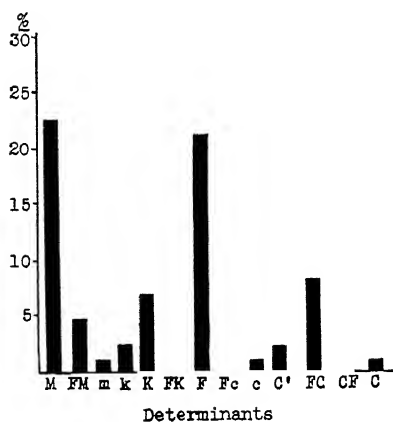
112 Responses



Derived from Individual Records
Repeat Performance

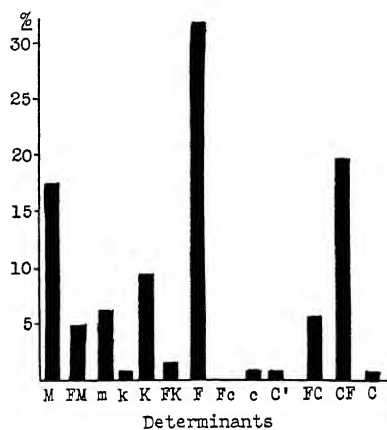
CARD IX

85 Responses



Derived from Group Records
First Performance

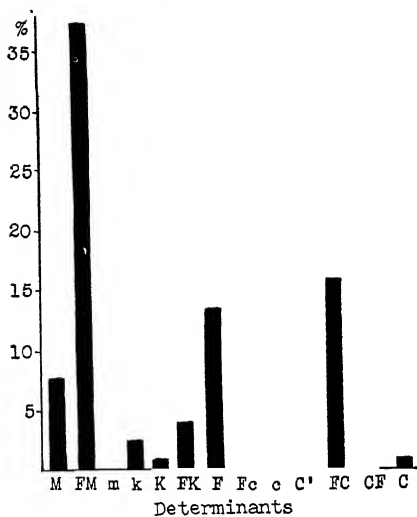
107 Responses



Derived from Individual Records
Repeat Performance

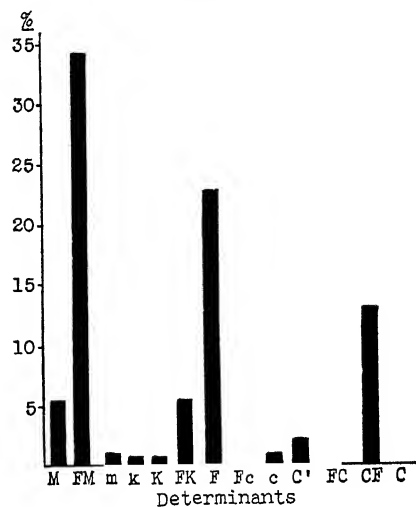
CARD X

122 Responses



Derived from Group Records
First Performance

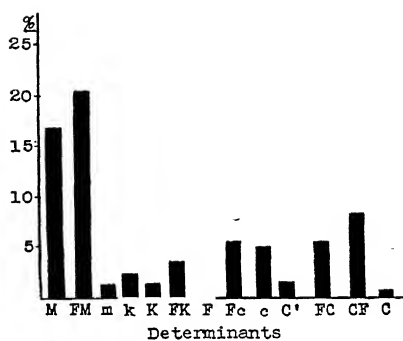
177 Responses



Derived from Individual Records
Repeat Performance

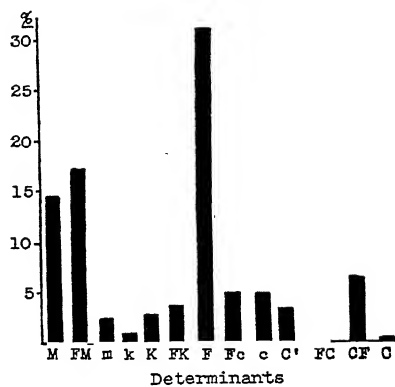
COMPOSITE FOR ALL CARDS

965 Responses



Derived from Group Records
First Performance

1120 Responses



Derived from Individual Records
Repeat Performance

TABLE III

Tables III and IV summarize the material presented in the graphs on the preceding pages.

Distribution of Responses According to Determinants

NURSES IN TRAINING. FIRST PERFORMANCE, GROUP RECORDS.

DETERMINANTS	CARDS									
	I	II	III	IV	V	VI	VII	VIII	IX	X
M	10.9	30.4	57.0	2.2	9.4	0	30	3.8	22.4	7.9
FM	23.6	18.5	11.8	12.1	40.0	4.8	12.2	32.1	4.7	37.3
m	0	1.1	2.2	3.3	0	3.8	3.3	.9	1.2	0
k	6.4	0	1.1	6.6	1.2	1.9	1.1	.9	2.4	2.4
K	0	1.1	0	2.2	1.2	1.9	3.3	0	7.1	.8
FK	2.7	9.8	2.2	1.1	2.4	7.6	6.7	.9	0	4.0
F	51.8	13.0	17.2	41.8	36.5	28.6	32.2	15.1	21.2	13.5
Fc	0	2.2	0	14.2	3.5	26.7	7.8	1.9	0	0
c	3.6	1.1	0	16.5	3.5	21.9	2.2	.9	1.2	0
C'	.9	6.5	3.2	0	2.4	2.9	1.1	0	2.4	0
FC		1.1	5.4					20.8	8.2	15.9
CF		13.0	0					21.7	28.2	17.5
C		2.1	0					.9	1.2	.8

TABLE IV

Distribution of Responses According to Determinants

NURSES IN TRAINING. REPEAT PERFORMANCE, INDIVIDUAL RECORDS.

DETERMINANTS	CARDS									
	I	II	III	IV	V	VI	VII	VIII	IX	X
M	17.2	22.6	39.8	5.0	10.1	1.6	29.8	3.4	17.5	5.5
FM	18.0	17.9	11.1	9.9	25.3	3.3	8.7	31.9	4.8	34.3
m	.8	0	3.7	4.0	1.0	3.3	2.9	.9	6.3	1.1
k	3.3	0	0	3.0	0	0	1.0	1.7	.8	.6
K	.8	4.7	0	2.0	1.0	5.7	2.9	.9	9.5	.6
FK	1.6	7.5	2.8	0	3.0	8.2	5.8	1.7	1.6	5.5
F	49.2	21.7	20.4	39.6	47.5	26.2	43.3	17.2	31.7	22.7
Fc	0	3.8	0	12.9	5.1	27.9	1.0	2.6	0	0
c	4.1	0	.9	21.8	3.0	16.4	3.8	2.6	.8	1.1
C'	4.9	5.7	7.4	2.0	4.0	7.4	1.0	0	.8	2.2
FC		9.4	10.2					22.4	5.6	13.3
CF		5.7	3.7					14.7	19.8	13.3
C		.9	.9					0	.8	0

PART III

SECTION I

The Multiple Choice Test for Screening Purposes

WE STATED in Section I, Part I, that the *group Rorschach* originated in an attempt to reduce the time required for administration of a valuable clinical method in order to extend the sphere of its usefulness. It was, undoubtedly, a beginning in the right direction but it soon became clear as we developed this new method that we had not gone nearly far enough in our attempt to shorten and simplify the procedure.

Moreover, we had not circumvented the most important obstacle to its widespread usage, namely the fact that skilled Rorschach workers were needed to score and evaluate the group records even if untrained persons could administer the test, while the complicated scoring system still defied any attempt to handle results in a mechanical fashion. The Rorschach, therefore, remained a method requiring its own specialists and could not be considered a psychological test in the usual sense of the word.

In this new multiple choice test, which we present in this chapter, we have cut the Gordian knot. We have departed so far in fact from the essence of what Rorschach intended in the spontaneous unimpeded recording of responses that it is probably fairest to all concerned to consider it as an entirely different procedure rather than a further modification of the original method. For quite clearly a test which can be given and evaluated in a few minutes cannot hope to achieve the type of detailed analysis of the individual's personality which the Rorschach method achieves in the hands of a specialist. In the last analysis, however, in any program of screening out of the unfit, we are much less interested in knowing in detail why the individual is unfit, provided we can spot him.

The use of multiple choice answers with ink blots is not new. Terman (1) in 1936 utilized four alternative answers with a small series of ink spots to determine dominant interests with reference to masculine and feminine traits. Our procedure, therefore, is somewhat similar to his. On receiving the Rorschach card, or looking at a slide of the blot, the individual is presented with ten alternative answers and is asked to

FIRST MULTIPLE CHOICE RECORD BLANK

1

- ☐ An army or navy emblem
☐ Mud and dirt
☐ A bat
☐ Nothing at all
☐ Two people
☐ A pelvis
☐ An x-ray picture
☐ Pincers of a crab
☐ A dirty mess
☐ Part of my body
☐ Something other than the above:—

2

- ☐ A bug somebody stepped on
☐ Nothing at all
☐ Two scottie dogs
☐ Little faces on the sides
☐ A bloody spinal column
☐ A white top
☐ A bursting bomb
☐ Two elephants
☐ Two clowns
☐ Black and red
☐ Something other than the above:—

3

- ☐ Two birds
☐ Meat in a butcher shop
☐ Two men
☐ Part of my body
☐ Red and black
☐ A colored butterfly
☐ Spots of blood or paint
☐ Monkeys hanging by their tails
☐ A red bow-tie
☐ Nothing at all
☐ Something other than the above:—

4

- ☐ Head of an animal
☐ Lungs and chest
☐ A nasty mess
☐ A pair of boots
☐ Black smoke and dirt
☐ Nothing at all
☐ A man in a fur coat
☐ An animal skin
☐ A big gorilla
☐ An x-ray picture
☐ Something other than the above:—

5

- ☐ Nothing at all
☐ An alligator's head
☐ A smashed body
☐ A fan dancer
☐ An x-ray picture
☐ Legs
☐ A bat or butterfly
☐ Lungs and chest
☐ Black clouds
☐ A pair of pliers
☐ Something other than the above:—

6

- ☐ Two kings' heads with crowns
☐ An x-ray picture
☐ Sex organs
☐ A totem pole
☐ A fur rug
☐ Mud and water
☐ A polished post
☐ Nothing at all
☐ A turtle
☐ A gray smudge
☐ Something other than the above:—

7

- ☐ Smoke or clouds
☐ Two women talking
☐ Part of my body
☐ Animals or animal heads
☐ Nothing at all
☐ A map
☐ Dirty ice and snow
☐ Lambs' tails, or feathers
☐ An x-ray picture
☐ Bookends
☐ Something other than the above:—

8

- ☐ Flowers or leaves
☐ An x-ray picture
☐ Nothing at all
☐ Pink, blue, and orange
☐ A horseshoe crab
☐ A colored coat of arms
☐ Fire and ice, life and death
☐ Two animals
☐ Blue flags
☐ Parts of my body
☐ Something other than the above:—

9

- ☐ Red, green, and orange
☐ Sea horses, or lobsters
☐ Flowers or underwater vegetation
☐ Parts of my body
☐ Smoke, flames, or an explosion
☐ Deer or horns of a deer
☐ Nothing at all
☐ Two people-witches or Santa Claus
☐ Bloody clouds
☐ A candle
☐ Something other than the above:—

10

- ☐ Two people
☐ Spilt paint
☐ A Chinese print
☐ An x-ray picture
☐ Red, blue, and green
☐ Spiders, caterpillars, crabs and insects
☐ Parts of my insides
☐ A colored chart or map
☐ Nothing at all
☐ A flower garden or gay tropical fish
☐ Something other than the above:—

pick that one which in his opinion is the best description of the blot or any part of the blot. Five of these ten answers have been chosen from the records given by healthy normal individuals, the remaining five from the records of persons with various types of psychological disturbances. They were selected after we had studied over 1000 records, clinical and otherwise, taken individually and accumulated by the writer during the course of several years.

The underlying assumption has been that those individuals most likely to give certain types of responses when responding freely in the Rorschach method will pick such responses when confronted with them in a multiple choice situation.

In scoring the test the key given in Section X is consulted.* Answers from normal records receive the numbers 1, 2, 3, 4, and 5, while answers occurring more frequently in abnormal records are scored 6, 7, 8, 9, and 10. The score, therefore, is epitomized in a series of ten digits since one answer represented by one number is selected from each list of the ten cards. Each of these numbers in addition to representing the good and poor answers for each card has significance so far as Rorschach scoring is concerned; that is, it has been chosen so that the important determinants or elements in Rorschach's scoring system are presented as systematically as possible. For example, a number 1 always stands for a human movement (the M) response (except in Card VIII where no M's are listed). Number 2 stands for the popular response to the card—in many cases an FM response. Good color responses, FC, another essential ingredient, are represented by 3 and 4 in the colored cards. Number 6 indicates anatomical answers. Number 7 in many cases represents answers depicting anxiety. Numbers 8 and 9 represent various types of disturbed answers. Number 10 signifies failure. This, it would appear might eventually lay the basis for at least some kind of differential diagnosis. (See Sections III and VII.)

Answers given as "*something other than the above*" i.e. written in by the subject in the blank space, are scored *A or alternate answers*, except when the difference is a purely verbal one, i.e. when the answer clearly belongs in the same category as one of the given suggestions. That is the only point where the trained Rorschach worker has an advantage. He will not need to use the "alternate" classification so often and will avoid false positives. When the test is used by untrained Rorschach workers, the alternate answers must be considered deviations and counted in with the poor answers, so that if the total of poor *and* alternate answers together reaches 4 or more than 4, the individual

* The Key in Section X is the key for the amplified version of the Multiple Choice test. (See Section VIII.) It *includes* the key for the original form discussed here which has 100 choices.

should be placed in the questionable group. If the test is scored by an individual with Rorschach experience, it will be found a very simple matter to score alternates as A+ and A- respectively. Original answers with good form are scored alternate plus, and are not counted as a deviation from the normal. Bizarre alternate answers, and those with poor form, are considered alternate minus answers and are counted in with the poor answers.

Administration

The test can be given in three ways: as a group test to large numbers of persons, as an individual test, and even as a self-administering test. The *group test procedure* takes approximately 20 minutes when over 200 individuals are involved. First, the written instructions on the test form are read aloud while the subjects read them too. Then each ink blot is projected for *30 seconds in a completely darkened room*. After this time the lights are put on for an additional 30 seconds (*or a full minute if necessary*) to allow for the recording of the responses. The blot remains in full view on the screen during the period of recording but is naturally a little dimmer when the lights are on. Since the last three colored blots cannot be seen well with room lighting, they are exposed a second time for a few seconds after the recording period to allow for a final check.

As each slide is exposed *its number should be called out by the examiner* and the subjects' attention should be directed to the fact that they must be sure to look at the *list pertaining to this particular slide*. There is almost always one individual in a large group of subjects who, despite the heavy lines on the page, and the initial instructions, will check his answers under the wrong inkblot and consequently invalidate his record! It is of the utmost importance that the slides are presented in the correct order and correct orientation. While this will not constitute a problem for persons who have had experience in the Rorschach method, it may well present a difficulty in the hands of an untrained technician. All slides should be clearly marked, therefore, with the number of the blot which they represent, and the correct manner of inserting them should be indicated.

The following may be considered as *Directions for Administering the Multiple Choice Test to groups*:

*Procedure**

"Issue the record forms saying in effect, "Do not turn this form over until so directed. Put your name and the other data in the space provided here,"

* The authors are indebted to Dr. F. L. Wells for this concise formulation of the directions.

(demonstrate on blank form). "Now I will read over the instructions with you:

"You will be shown a series of 10 inkblot pictures. First you will take a good look at each picture as it is shown and see whether it, or any part of it, reminds you of anything or resembles something you have seen. Then you will read through a list of suggested replies to see which of these is the best description of the blot. Put a cross in the little box beside the suggestion that *you* think is the best description of the blot. If you see two things, put a 2 in the square corresponding to your second choice. If you see nothing, put a cross by the word "Nothing." If you see something that is not listed and is quite unlike anything that has been suggested, put down what you see on the blank line at the bottom of the column."

"Each figure will be shown about half a minute with the room rather dark, and then lights will be turned on, to enable you to write your answers, for another half-minute before the next slide is shown. Each time a new slide is shown, I will call out its number, 1, 2, 3, and so on. Notice that the numbers run across the page like this . . . (demonstrate with blank form). Is that all perfectly clear? Now turn the page, slide number one."

The changing of light and slides will ordinarily be difficult for a single examiner. With two, one examiner can easily work the projector while the other regulates the lights. The slides should be left exposed while the light is on, the room being again darkened for the initial exposure of each new slide. Call its number as each new slide is exposed.

Scoring

When the records have been collected, the examiner must:

- 1) Give the rank number of each response
- 2) Add up the number of "minus" responses (those of rank 6 and over)
- 3) List the number of alternates
- 4) Epitomize the subject's record in such a way as:
 - 0 poor answers, or
 - 1 poor answer plus 3 alternates, or
 - 6 poor answers, or
 - 8 poor answers

as the score demands."

Individual Presentation

When a *single individual* is examined the test takes approximately five minutes. The same instructions may be given except that the individual is not asked to mark the blank. He is asked to tell the examiner his first and second choices and the examiner marks these two choices on the test blank as each card is responded to. The individual, for example, is presented with the Rorschach picture and a card on which are written the ten suggestions for that inkblot. He selects, let us say, "a bat" on Card 1 as his first choice and "pelvis" as his second. The examiner, however, does not write "bat" or "pelvis" but marks these

answers on the test form and simultaneously, or subsequently, transcribes the numbers in the space at the lower right of the test blank (See page 152) and so on for each of the ten answers. If the subject is unable to read easily, the examiner may read out the list to him while he looks at the card.

A third manner of administration is simply to hand an individual a series of the inkblots in their correct order and orientation and let him administer the test to himself, taking his own time and marking the blank himself.

Scoring

For transcribing the scores subsequent to the group administration, we have found that if the key is known by heart, transcribing ten digits is an affair of seconds. At the most a minute may be allowed for each record blank. Whether first choices should be given equal weight, or even whether third or fourth choices should be asked for depends on the purpose to which the test is to be put. If the roughest, quickest screening is desired, then first answers alone are probably sufficient to indicate gross disturbance. However, a remarkably full analysis is possible if the subject is asked to pick out and mark in order of preference "all those answers that he can see in the blot." This, however, requires evaluation by persons with some Rorschach training (Sections III and VII).

In the usual procedure where two answers are requested (see Procedure on page 155), most weight is given to first answers. They constitute the ten digit score, but important information can be derived from second answers in questionable cases. For example, attention to second answers may differentiate between the more seriously disturbed individuals with four poor answers and those who are less disturbed. Moreover, as Washburne and Jacobs* have found, certain types of difficulties may be shown in second rather than in first choices. The absence of second choices on certain cards is also significant, indicating a greater difficulty with the card in question. Sometimes "nothing at all" may be given as second choice despite the fact that an answer has already been selected in the first place, indicating a hesitancy about committing oneself on that particular card.

The Subjects in our Initial Experiment

Table I shows the subjects who took part in our initial experiment.

* Personal Communication.

TABLE I

SUBJECTS	TYPE OF INFORMATION AVAILABLE FOR COMPARISON AND VALIDATION OF PERFORMANCE ON TEST
33 Superior adults (m. & f.) 31 Unselected adults (m. & f.) 48 Student nurses (f.)	Correlations with impressions on psychiatric interview and with "Washburne Social-Adjustment Inventory" and "Aptitude Test for Nursing." Comparison with performance during training, supervisor's rating, etc.
217 Women in Service	Comparison with performance during intensive training period, ability to adjust to new conditions, occurrence of functional disorders, etc.
Total 329	
225 Prisoners at Waupun Prison (m.) (Age 18-38)	Information from Warden and Deputy Warden, opinion of Board of Public Welfare.
53 Students referred by college psychiatrists (m. & f.)	Clinical diagnoses and follow-up studies by Drs Washburne and Jacobs.
29 Patients from Hospital for Criminally Insane, Waupun (m.)	Clinical histories, diagnoses, discussion with physician in charge, Dr. Klepfer.
43 Patients from neuropsychiatric wards, Wisconsin General Hospital (m. & f.)	Clinical histories, diagnoses, by Drs. Reese, Kant. Masten, Haynes.
71 Patients from Mendota State Hospital (m. & f.)	Diagnoses from attending physicians, Drs. Southoff, Ware.
Total 143	

Results of Initial Experiments

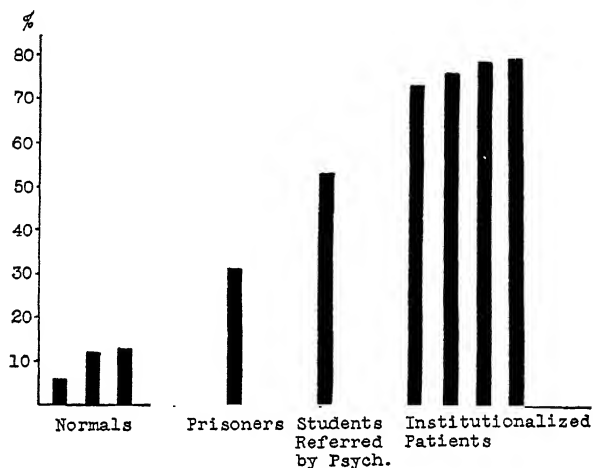
What differences do we find in the selection of answers in terms of our digit system between the normal and abnormal subjects? Do the normals select fewer poor answers? That is, do we find more 1, 2, 3, 4, 5's and fewer 6, 7, 8, 9, 10's in the normal group? The answer is emphatically "yes." There is a very striking difference between the scores of the normal and abnormal subjects which can be seen in a variety of ways.

The accompanying graph, page 158, presents the answer in the clearest and most simple form. Expressed in these columns in percentage terms is the number of persons in each group whose score includes 4 or more than 4 poor answers. At the one extreme we have the 6% to 16% of the normal groups; at the other the 73% to 79% of

the institutionalized patients and neuropsychiatric cases; the prisoners, and the students referred by the psychiatrist showing intermediate positions.

There is nothing absolute or final about the choice of four poor answers as the score at which to become suspicious of an individual's performance. We selected this point empirically since it seemed to be the one which caught the maximum number of persons who showed

PERCENTAGE OF EACH GROUP WITH 4 OR MORE THAN 4 POOR ANSWERS



some significant disturbance in the particular groups that we tested. However, if only the most disturbed individuals are to be screened out, then five poor answers, or even 6 may be taken as the criterion. Similarly, if exceptionally well balanced and integrated individuals are to be selected, picking these on the basis of their having no poor answers, or only one poor answer, might be useful. On page 159 it may be seen that whereas chance would decree that only .09 per cent of the individuals in a group might be expected to have ten good answers (no poor answers) in the superior adult group 55% fall in this area. And the whole distribution of the curve is quite at variance with what would be expected on a chance basis.*

Table II breaks down the results epitomized above, so that we see the different distributions within the groups in four classifications: those with 0, 1 and 2 poor answers, which we consider good records, those with 3 poor answers, those with 4, and those with more than four. It is interesting to note, among other things, that the prisoners have a relatively small percentage of persons with *more than four* poor

* See footnote on page 160.

answers, i.e. they are much closer to the normal distribution than to that of the psychiatric patients, but at the same time they have a much smaller percentage of persons with outstandingly good records (with 0, 1, and 2 poor answers) when compared with the superior adults, the women in service and the student nurses.

CHANCE DISTRIBUTION OF POOR ANSWERS COMPARED WITH THAT FOUND AMONGST A SUPERIOR ADULT GROUP

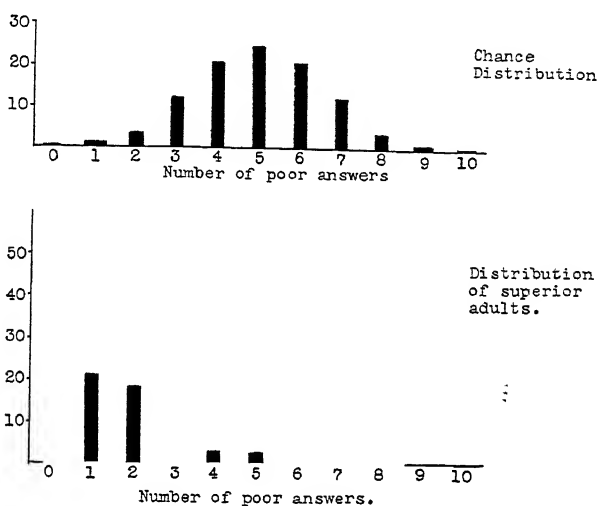


TABLE II % Poor Answers

	0, 1, 2	3	4	more than 4
Superior adults	94	0	3	3
Unselected adults	77	6	13	3
Student nurses	80	8	8	4
Women in Service	73	14	9	4
Prisoners at Waupun	44	24	16	15
Students referred by college psychiatrist	33	13	23	30
Patients from Hospital for Criminally Insane, Waupun	14	10	24	52
Patients from neuro-psych. wards, Wisconsin General Hospital	9	12	9	70
Patients from Mendota State Hospital (female)	10	12	15	63
Patients from Mendota State Hospital (male)	20	7	10	63

In Section II the actual scores of some of our subjects will be found. For example, 48 student nurses may be compared with 41 female patients from a state hospital. Similarly the scores of 33 superior normals* can be contrasted with the scores of 33 patients from the neuropsychiatric wards. The ten digit score is recorded horizontally in each case, with a final column epitomizing the number of poor answers together with the number of alternate answers. All poor answers are bracketed so that they stand out in the score more clearly. *The line drawn across the page separates those with 4 or more than 4 poor answers from the rest.* It will be noticed that "4 or more than 4 poor answers" includes alternate answers; for example, subject 43 amongst the student nurses has 2 poor answers and 2 alternate answers. While in all probability this record shows nowhere near the disturbance that 4 poor answers would show, in order not to involve any qualitative estimate of the answers at this point, such a subject is placed below the line.

Unquestionably then, a striking difference can be demonstrated quantitatively between the groups. But what can we say about the exceptions? That small percentage of persons who do well in the abnormal group, and that small percentage who do badly in the normal group. Here some of the most interesting features of the whole study appear. For example, subject 35 among the superior adults was the only one in the group to have more than 4 poor answers. This individual, it subsequently transpired, had been hospitalized for manic depressive psychosis. The only individual with as many as 8 poor answers among the women in service was at that time "deaf," unable to hear the code, and was subsequently diagnosed as conversion hysteria.

Four of the six individuals who fell below the line in the nurses group received low ratings on the psychiatric interview (3 D's and a C). In addition, those with the D ratings also did badly on both other psychological tests, the Washburne Social Adjustment and the Nursing Aptitude test.

There are, however, records which must be considered *false positives*, i.e., records of well-adjusted persons who fall below the line of demarcation because of technical defects in the scoring system at the present time. Such cases, as a matter of fact, occur most frequently in members of the medical profession or medical students. They are the result of a professional or occupational attitude which is carried over

* Recently Mann and Archibald (2) have published figures for two groups of subjects in England. Their superior adult group shows 4% of the individuals with 4 or more poor answers, their group of factory workers shows 25%.

into the test, particularly in the first two cards so that anatomical answers are selected. While other occupational interests are not penalized, anatomical answers must receive high numbers (actually 6 and 7) in the scoring system because of the significance which anatomical answers have in the records of many neurotic patients. Two anatomical answers, however, may be sufficient to place a well-adjusted individual with *medical interests* into the group with 4 poor answers, if he has in addition two poor answers which would *not* otherwise have been significant. We do not feel that this need constitute a grave obstacle, however. A medical background is something that is usually known about the individual who is taking the test, and when a sufficient number of medical students have been tested it will be easy to know which answers to score differently in such cases. We can make this statement with confidence, in view of the analysis of the group Rorschach records of the 108 medical students where a striking difference in the percentage of anatomical answers was demonstrated when contrasted with other students. (Part II, Section XI)

On the other side of the picture some patients did well from the neuropsychiatric and institutionalized groups. For some of these exceptions, but not all, there is an understandable explanation. For example, several manic patients in the State Hospital were specifically reported as being in a good condition at that time of examination. No. 26 in the neuropsychiatric group, a soldier, with only 1 poor answer, was not felt to be psychoneurotic on clinical examination although referred with that diagnosis. No. 14 in the same group had a pituitary tumor and regular Rorschach examination has failed to reveal personality changes in many of these cases. There still remain, however, a small group of cases whom we miss if 4 or more than 4 poor answers is to be taken as the only point of departure for questioning the subject's psychological condition. These cases, however, will decrease considerably if some *qualitative estimate* of the poor answers is allowed. For example, most Rorschach experts would agree that *three failures*, or three 10's in a record probably indicate greater psychological difficulties than some constellations of four poor answers. (See Section VIII)

REFERENCE

1. Terman, L. M. and Miles, C. C. *Sex and personality*. New York, McGraw-Hill, 1936, xi+600 pp.
2. Mann, Ida and Archibald, Dorothy. A study of a selected group of women employed on extremely fine work. *British Medical Journal*, 1944.1.387.

SECTION II

Scores Obtained from "Unselected" and Clinical Subjects on the Multiple Choice Test

TABLE I
33 SUPERIOR NORMALS

SUBJECTS	CARDS										No. OF POOR ANSWERS
	I	II	III	IV	V	VI	VII	VIII	IX	X	
1	1	1	1	1	1	4	1	2	1	1	0
2	1	2	1	2	1	A	1	2	1	1	0+1A
3	1	1	1	2	A	1	1	1	1	1	0+1A
4	1	1	1	1	2	1	1	1	1	1	0
5	2	2	1	5	2	1	1	2	4	4	0
6	2	2	1	2	2	1	1	1	5	4	0
7	2	1	1	2	2	1	1	2	3	2	0
8	2	2	1	4	2	1	1	2	3	A	0+1A
9	A	2	1	2	2	5	A	2	A	2	0+3A
10	3	2	1	4	3	1	1	2	5	2	0
11	2	2	1	4	2	1	1	2	3	2	0
12	2	1	1	2	1	1	1	2	1	2	0
13	1	1	1	2	2	1	1	2	1	2	0
14	2	1	1	1	2	2	1	2	1	2	0
15	2	2	1	2	2	2	1	2	A	1	0+1A
16	2	1	1	2	1	1	1	2	1	1	0
17	1	1	1	1	2	1	5	1	4	4	0
18	2	2	1	4	1	1	1	2	3	2	0
19	1	1	(8)	5	2	3	1	1	4	4	1
20	2	2	4	(7)	2	3	1	2	1	2	1
21	3	4	1	2	2	1	5	4	(6)	2	1
22	2	2	1	1	1	2	1	1	(7)	4	1
23	(6)	1	1	2	2	1	3	2	3	2	1
24	2	3	1	2	A	5	1	2	(6)	2	1+1A
25	2	2	1	4	2	1	2	2	(7)	2	1
26	(6)	2	1	2	2	1	1	(6)	4	2	2
27	2	2	1	4	2	5	1	(6)	(8)	2	2
28	2	1	1	2	2	(6)	1	4	(7)	2	2
29	(7)	1	4	1	2	(7)	1	1	4	5	2
30	1	1	1	4	2	2	1	(8)	(8)	4	2
31	(6)	2	1	(7)	1	1	5	4	3	2	2
32	(6)	2	A	2	2	1	5	(8)	A	2	2+2A
33*	(6)	(7)	(6)	A	2	1	(7)	4	(8)	2	5+1A

A stands for alternate answer.

* Twice hospitalized for M.D.I.

TABLE I
 33 PATIENTS FROM NEUROPSYCHIATRIC WARDS

SUBJECTS	CARDS										No. of Poor Answers
	I	II	III	IV	V	VI	VII	VIII	IX	X	
Psychoneurotic	2	1	1	(7)	2	5	5	2	3	5	1
Pituitary adenoma, reactive depression	3	1	1	2	2	5	(Fa)	2	(8)	3	2
Involutional	(6)	(7)	1	2	3	1	1	2	3	2	2
Psychoneurotic, anxi- ety type	1	1	1	2	(7)	1	5	1	(7)	(Fa)	3
Psychoneurotic	3	(7)	1	4	2	1	1	2	(8)	(8)	3
Post-traumatic head- ache, anxiety neuro- sis	2	2	1	2	2	1	2	(6)	(8)	(8)	3
Schizophrenia	2	2	(8)	2	2	5	(7)	4	(6)	A	3+1A
Hysteria?	A	2	1	2	2	1	1	(8)	(8)	(Fa)	3+1A
Psychopathic person- ality	(6)	2	1	2	2	1	(8)	(8)	(Fa)	2	4
Schizophrenia	2	(Fa)	A	2	2	(Fa)	5	(6)	(Fa)	3	4+1A
Paranoid involutional	A	(Fa)	1	(8)	2	1	1	(8)	3	(Fa)	4+1A
Psychoneurotic, epi- leptic	2	(7)	(Fa)	2	2	1	A	(8)	(8)	2	4+1A
Behavior problem	A	A	(6)	4	3	3	1	(8)	(8)	(8)	4+2A
Behavior problem or schizophrenia?	(Fa)	2	(Fa)	(Fa)	2	1	(Fa)	A	A	2	4+2A
Psychasthenia, lead poisoning	(7)	(8)	3	(Fa)	A	A	(7)	2	2	A	4+3A
Diagnosis deferred	(6)	(7)	(6)	A	2	1	5	(6)	A	A	4+3A
Hysteria	A	A	(Fa)	A	(Fa)	A	A	(6)	(Fa)	A	4+6A
Tuberous sclerosis	2	(7)	2	(7)	2	(7)	(6)	2	(7)	5	5
Epileptic	2	(Fa)	2	(7)	(Fa)	3	5	(8)	(8)	5	5
Anxiety state, schizo- phrenic type	(6)	2	(6)	2	2	1	(6)	2	(8)	(Fa)	5
Epileptic	2	(Fa)	(Fa)	(Fa)	2	3	1	(8)	(8)	2	5
Epileptic	5	(6)	3	(7)	(Fa)	(7)	5	3	5	(Fa)	5
Neurasthenia	A	1	1	(Fa)	2	(Fa)	1	(8)	(8)	(Fa)	5+1A
Diagnosis deferred	(6)	(Fa)	(8)	(7)	2	1	(7)	2	4	(Fa)	6
Diagnosis deferred	(6)	2	3	(Fa)	2	(7)	(Fa)	2	(Fa)	(7)	6
Schizophrenia	(6)	(7)	(Fa)	2	2	(Fa)	(Fa)	2	2	(Fa)	6
Psychoneurotic	(6)	(6)	1	(7)	2	5	(Fa)	(8)	(8)	2	6
Diagnosis deferred	(8)	(7)	1	4	2	(7)	(8)	(8)	A	(7)	6+1A
Schizophrenia	(7)	(8)	1	2	2	(7)	(7)	(8)	(8)	(8)	7
Hysteria	(6)	(7)	(6)	(6)	2	1	(8)	(8)	(8)	(7)	8
Schizophrenia	(Fa)	(Fa)	(8)	(Fa)	(Fa)	1	(Fa)	(7)	(8)	A	8+1A
Schizophrenia	(8)	(7)	(6)	(7)	A	(7)	(8)	(6)	(8)	(7)	9+1A
Epileptic	(6)	(7)	(6)	(7)	(7)	(7)	(Fa)	(8)	(8)	(8)	10

A stands for alternate answer.

TABLE II
41 SUPERIOR NORMAL SUBJECTS

SUBJECT	CARDS										No. of POOR ANSWERS
	I	II	III	IV	V	VI	VII	VIII	IX	X	
1	2	2	1	2	2	2	1	2	4	2	0
2	2	1	1	4	2	2	1	2	1	2	0
3	2	3	1	4	2	2	1	2	4	1	0
4	1	3	1	2	1	2	1	2	4	4	0
5	2	1	1	4	2	2	1	2	1	2	0
6	3	3	1	2	2	2	1	2	3	2	0
7	1	1	1	1	1	2	1	2	1	2	0
8	1	3	1	3	2	2	1	2	1	2	0
9	1	1	1	4	2	2	1	2	3	1	0
10	2	2	1	2	2	2	1	2	4	2	0
11	5	3	1	2	2	2	1	2	1	3	0
12	5	1	1	2	2	1	1	1	2	4	0
13	5	1	1	2	2	1	1	2	1	2	0
14	5	3	1	4	2	2	1	2	4	2	0
15	5	1	1	4	1	3	1	2	1	1	0
16	5	2	1	2	2	3	2	2	5	3	0
17	2	1	1	4	1	2	1	A	4	2	0+1A
18	2	3	A	4	2	2	1	2	4	2	0+1A
19	A	2	1	2	2	2	1	1	4	1	0+1A
20	2	3	1	5	2	2	A	1	1	2	0+1A
21	2	1	1	2	2	2	4	1	A	4	0+1A
22	A	1	1	2	2	4	1	2	3	2	0+1A
23	5	2	1	(6)	2	2	1	2	1	2	1
24	2	2	1	2	2	(Fa)	2	2	1	2	1
25	2	3	1	5	2	2	1	2	(7)	2	1
26	2	1	1	2	2	(6)	1	2	3	2	1
27	3	(7)	1	4	2	5	1	1	4	3	1
28	3	2	1	4	2	(Fa)	1	1	4	3	1
29	3	3	3	4	2	2	4	1	(9)	3	1
30	3	2	1	(Fa)	2	3	1	1	(7)	3	2
31	2	2	1	5	2	2	(6)	(6)	4	2	2
32	3	1	1	2	2	(7)	5	2	1	(8)	2
33	2	(6)	1	5	2	2	1	2	(7)	2	2
34	2	(7)	1	2	2	4	(8)	1	4	2	2
35	2	(7)	1	2	2	2	5	2	4	(6)	2
36	2	2	1	4	2	2	(Fa)	4	(9)	2	2
37	5	1	1	2	2	(6)	5	1	(7)	2	2
38	5	3	1	(7)	2	2	(6)	1	4	2	2
39	1	1	1	2	1	(8)	1	2	A	A	1+2A
40	5	1	(6)	(6)	2	2	(6)	1	3	2	3
41	A	(Fa)	(6)	4	2	4	1	A	4	2	2+2A

TABLE II
41 PATIENTS FROM NEUROPSYCHIATRIC WARDS

SUBJECT	CARDS										No. OF POOR ANSWERS
	I	II	III	IV	V	VI	VII	VIII	IX	X	
Psychoneurosis	5	3	1	2	2	2	1	2	4	(7)	1
Benign depression or psychoneurosis	(6)	3	1	2	2	2	1	2	4	(9)	2
Psychoneurosis	5	3	1	5	2	3	(8)	(6)	1	3	2
Agitated depression	3	2	1	(7)	2	1	(9)	5	4	5	2
Manic-depressive	2	3	(8)	4	2	1	(8)	4	(9)	1	3
Neurasthenic type	3	2	1	4	2	(6)	1	(6)	(7)	2	3
Conversion hysteria	3	(6)	(6)	4	2	2	(9)	2	4	2	3
Involuntional depres- sion	(6)	3	1	4	2	4	(8)	2	(9)	3	3
Schizophrenia	2	1	1	(6)	2	4	2	(9)	(Fa)	1	3
?	2	3	1	5	2	4	(8)	1	(7)	(9)	3
Mental deficiency with psychosis	1	3	1	5	2	1	(8)	(7)	4	(8)	3
Manic depressive	(6)	1	1	(7)	2	1	1	(9)	3	(8)	4
Pre-frontal lobotomy (Schizophrenic)	2	(9)	1	2	2	2	5	(6)	(6)	(6)	4
Mental deficiency	(Fa)	(7)	1	2	2	(9)	1	(8)	1	2	4
Subnormal intelli- gence with patho- logical intoxication	2	1	1	4	2	2	(Fa)	(6)	(6)	(6)	4
Psychoneurosis	(Fa)	2	1	2	2	2	(8)	(9)	(9)	2	4
Mental deficiency, tension state	5	(9)	(9)	2	2	4	5	5	(9)	(9)	4
?	A	(7)	A	2	2	(Fa)	4	A	2	2	2+3A
Simple schizophrenia	5	(9)	1	4	A	2	A	2	(9)	(6)	3+2A
Epilepsy	3	2	1	(7)	2	A	(Fa)	(7)	A	3	3+2A
Involuntional	2	2	1	(6)	2	A	(6)	(6)	(9)	2	4+1A
?	(6)	3	(8)	2	2	(9)	(8)	5	3	A	4+1A
Schizoid personality	4	(8)	4	(7)	2	(7)	(7)	2	(6)	2	5
Incest	3	(9)	4	5	2	(9)	(Fa)	(9)	(8)	5	5
Jacksonian epilepsy	1	(7)	1	4	2	2	(Fa)	(9)	(9)	(8)	5
Postencephalitis	(Fa)	2	1	(6)	2	4	1	(9)	(9)	(8)	5
Psychoneurosis	(6)	(9)	1	3	2	2	(7)	(9)	(6)	2	5
Psychoneurosis	(Fa)	(9)	(Fa)	4	2	2	1	(9)	(9)	2	5
Psychoneurotic features	(7)	(6)	4	(7)	2	2	(9)	(7)	A	2	5+1A
Behavior problem, encephalitis	2	(9)	(9)	5	2	(7)	(7)	(7)	(9)	4	6
Acute schizophrenia	A	(7)	A	A	A	(7)	4	A	3	3	2+5A
Psychoneurosis, panic state	(6)	1	(6)	4	2	(9)	(6)	(6)	(6)	(6)	7
Agitated depressive	(8)	3	(6)	(6)	(9)	5	(Fa)	(Fa)	3	(Fa)	7
Early schizophrenia	2	(6)	(9)	(7)	4	4	(7)	(6)	(6)	(6)	7
Recurrent depression	2	(9)	(6)	(6)	2	(7)	(6)	(9)	(9)	2	7
Schizophrenia	A	(8)	1	(Fa)	2	A	A	A	(9)	(9)	4+4A
Psychoneurosis	(6)	(9)	(9)	(7)	2	(9)	(Fa)	(9)	(9)	(9)	9
Schizophrenia	(7)	3	(Fa)	(7)	(7)	(7)	(Fa)	(Fa)	(Fa)	(Fa)	9
?	(6)	(Fa)	(Fa)	(Fa)	2	(Fa)	(Fa)	(Fa)	(Fa)	(Fa)	9
Schizophrenia, para- noid type	(8)	(Fa)	(Fa)	(Fa)	(Fa)	(Fa)	(Fa)	(Fa)	A	(Fa)	9+1A
Immature personal- ity, sexual psycho- pathic trends	(Fa)	(7)	(Fa)	(Fa)	(Fa)	(6)	(6)	(6)	(6)	(6)	10

TABLE III
41 FEMALE PATIENTS FROM A STATE HOSPITAL

SUBJECTS	CARDS										No. of Poor An- swers
	I	II	III	IV	V	VI	VII	VIII	IX	X	
Manic	2	1	1	3	2	2	1	4	3	2	0
Praecox. paranoid	3	3	2	4	2	2	3	A	1	1	0+1A
Manic	2	3	(6)	2	2	4	4	2	1	2	1
Praecox	2	(9)	1	4	2	(9)	1	1	1	3	2
Psychoneurosis, hys.	2	3	1	(9)	2	4	(8)	A	1	2	2+1A
Involutional?	(7)	1	1	A	2	2	(8)	4	1	3	2+1A
Manic	2	3	(Fa)	4	2	4	(8)	2	(Fa)	2	3
Manic	(6)	3	2	(6)	2	2	4	(9)	3	1	3
Praecox	4	(6)	1	1	2	(6)	1	4	(7)	1	3
Praecox	2	3	(6)	3	2	2	(7)	A	(8)	2	3+1A
Mixed manic	A	(9)	3	5	4	4	(8)	4	4	(8)	3+1A
Manic	5	1	3	(7)	(6)	A	3	(8)	3	2	3+1A
Involutional	5	(6)	4	5	A	(Fa)	(8)	2	3	A	3+2A
Epileptic	1	(6)	2	(6)	5	(Fa)	(8)	2	3	3	4
Praecox (simple)	2	3	1	(7)	2	(Fa)	1	(7)	(7)	5	4
Praecox (hebephrenia)	2	(6)	3	2	2	4	(8)	(6)	4	(8)	4
Praecox (old)	2	2	A	(6)	2	2	1	(9)	(9)	(9)	4+1A
Manic (depressed)	3	A	(Fa)	(7)	(Fa)	4	(8)	4	1	3	4+1A
Praecox (simple)	2	3	2	(Fa)	2	4	A	(9)	(9)	(Fa)	4+1A
Praecox	2	(7)	1	4	5	3	(9)	(7)	(9)	A	4+1A
Manic	(6)	(7)	4	2	2	(7)	(9)	1	(9)	3	5
Manic	(6)	(8)	(6)	4	2	5	(6)	3	(9)	A	5+1A
Praecox (simple)	2	(7)	2	(6)	2	(7)	(8)	4	(6)	5	5
Praecox	2	(9)	(8)	(9)	2	4	(6)	4	(9)	3	5
Involutional, confused	2	(7)	(6)	(6)	(7)	4	5	(9)	(9)	2	6
Praecox, paranoid	1	(7)	(6)	4	2	(8)	(8)	2	(8)	(7)	6
Praecox, manic type	(6)	3	3	4	2	(Fa)	(Fa)	(Fa)	(Fa)	(Fa)	6
Praecox (simple)	2	3	(Fa)	(7)	2	(7)	5	(9)	(9)	(9)	6
Praecox	(9)	(9)	1	2	2	2	(8)	(6)	(9)	(6)	6
Praecox	5	(8)	(7)	A	(9)	(Fa)	(9)	3	A	(8)	6+2A
Praecox (simple)	3	3	(6)	(7)	2	(6)	(6)	(6)	(6)	(7)	7
Involutional	(6)	(9)	(8)	2	2	2	(Fa)	(9)	(9)	(9)	7
Deteriorated parietic	A	3	A	A	A	4	A	2	A	A	0+7A
Paresis, deteriorated	2	(Fa)	(Fa)	(Fa)	(Fa)	2	(8)	(9)	(9)	(9)	8
Involutional	(6)	(9)	(Fa)	(Fa)	2	3	(9)	(9)	(9)	(9)	8
Praecox, manic type	(8)	3	(6)	(7)	2	(Fa)	(7)	(9)	(9)	(Fa)	8
Epileptic	2	(7)	(Fa)	(7)	2	(8)	(Fa)	(7)	(6)	(Fa)	8
Manic	(8)	(6)	(9)	(6)	2	4	(6)	(7)	(6)	(6)	8
Praecox	(Fa)	(9)	(9)	(Fa)	(8)	(9)	(9)	(Fa)	(Fa)	(9)	10
Involutional	(Fa)	(9)	(9)	(Fa)	(Fa)	(Fa)	(Fa)	(Fa)	(Fa)	(Fa)	10
Paranoid	(7)	(6)	(6)	(6)	(6)	(7)	(7)	(7)	(6)	(7)	10

A stands for alternate answer.

TABLE III
48 STUDENT NURSES

SUBJECTS	CARDS										No. of POOR ANSWERS
	I	II	III	IV	V	VI	VII	VIII	IX	X	
1	4	2	1	A	2	A	1	1	A	4	0+3A
2	2	2	1	2	2	1	1	2	1	1	0
3	1	1	1	2	2	1	1	1	3	2	0
4	2	5	2	1	2	1	1	1	5	2	0
5	2	2	1	2	1	2	1	1	A	2	0+1A
6	3	A	2	4	A	5	1	2	A	3	0+3A
7	2	3	1	2	2	2	1	1	A	4	0+1A
8	2	2	1	2	2	1	1	1	A	2	0+1A
9	(6)	1	1	2	2	A	1	1	A	4	1+2A
10	2	2	1	2	2	1	1	(8)	A	2	1+1A
11	2	1	1	2	2	4	1	1	(Fa)	2	1
12	2	1	1	2	2	(6)	2	5	1	2	1
13	2	2	1	2	2	(8)	1	2	3	3	1
14	2	2	1	4	2	2	1	(8)	5	2	1
15	(6)	2	2	4	4	1	1	1	5	2	1
16	3	4	1	4	2	1	1	(6)	3	2	1
17	(6)	2	1	4	2	2	1	2	5	5	1
18	2	2	1	2	2	2	1	(8)	4	2	1
19	2	1	1	4	2	1	1	(6)	4	5	1
20	2	2	1	4	1	(Fa)	1	1	2	3	1
21	2	5	1	4	2	A	1	1	(6)	5	1+1A
22	(6)	2	4	1	2	2	1	2	2	2	1
23	2	(7)	1	4	2	3	1	2	5	5	1
24	2	1	1	2	2	(Fa)	1	1	3	2	1
25	1	1	1	(8)	2	5	1	1	5	1	1
26	2	1	1	(7)	1	1	1	2	A	3	1+1A
27	2	2	1	5	2	(6)	1	2	1	2	1
28	2	2	2	2	2	(6)	A	2	1	4	1+1A
29	2	2	1	4	1	1	1	(8)	1	3	1
30	1	2	1	2	2	1	1	1	(Fa)	4	1
31	3	1	1	2	2	1	(Fa)	(8)	3	3	2
32	(6)	2	1	2	2	5	1	(6)	3	5	2
33	3	2	1	(7)	2	2	1	(6)	3	2	2
34	2	1	1	(7)	2	1	1	(8)	3	5	2
35	3	2	1	1	2	1	1	2	(8)	(8)	2
36	2	1	1	2	2	(6)	1	1	(Fa)	A	2+1A
37	2	2	1	2	2	2	1	(8)	(8)	2	2
38	(6)	2	1	2	2	1	1	(8)	A	2	2+1A
39	(6)	2	2	(7)	2	1	1	1	(Fa)	4	3
40	(6)	(7)	1	4	2	5	1	(7)	3	2	3
41	2	(7)	2	2	2	(6)	4	(8)	3	3	3
42	2	1	1	2	2	(Fa)	(Fa)	2	(6)	2	3
43	(6)	A	1	2	2	1	5	(6)	4	A	2+2A
44	A	(7)	1	2	A	(Fa)	1	(6)	(8)	2	4+2A
45	(6)	2	1	(7)	2	1	1	(6)	(6)	1	4
46	1	1	A	A	2	A	2	1	A	4	0+4A
47	(6)	(7)	1	2	2	(6)	5	(6)	(6)	A	5+1A
48	2	(7)	(8)	2	2	(8)	(8)	(6)	(6)	2	6

A stands for alternate answer.

TABLE IV
217 WOMEN IN SERVICE

SUBJECT	CARDS										No. of POOR ANSWERS
	I	II	III	IV	V	VI	VII	VIII	IX	X	
1	2	2	1	2	2	2	1	1	5	2	0
2	2	2	1	2	2	1	1	4	4	2	0
3	2	1	1	4	2	2	1	2	4	2	0
4	2	2	1	2	2	3	1	1	3	3	0
5	3	1	1	2	1	2	1	1	5	2	0
6	2	1	1	4	2	4	1	1	1	2	0
7	2	2	1	5	1	5	5	1	2	2	0
8	2	2	1	4	1	2	1	2	5	3	0
9	2	2	1	4	1	1	1	1	5	2	0
10	2	1	1	2	1	1	1	2	5	2	0
11	3	2	1	2	2	5	1	1	3	3	0
12	2	1	1	4	2	1	1	1	3	1	0
13	4	1	1	4	2	4	1	2	5	1	0
14	2	2	1	2	2	2	1	2	3	2	0
15	3	2	1	4	2	1	1	1	4	2	0
16	2	1	1	2	4	4	2	4	3	2	0
17	1	2	1	4	1	2	1	2	5	2	0
18	2	1	1	2	2	1	1	1	5	2	0
19	2	2	1	4	2	1	1	1	4	3	0
20	2	1	1	2	2	1	1	1	A	2	0+1A
21	2	1	1	2	2	2	A	1	4	3	0+1A
22	2	1	1	1	1	1	5	2	A	3	0+1A
23	2	1	1	A	2	1	1	1	3	3	0+1A
24	4	1	A	4	1	3	1	1	5	2	0+1A
25	2	2	1	4	2	5	1	A	3	1	0+1A
26	2	1	1	2	2	1	2	1	A	2	0+1A
27	2	2	1	2	2	2	2	A	5	1	0+1A
28	2	2	1	1	1	1	1	A	5	1	0+1A
29	A	1	1	4	2	A	1	4	3	1	0+2A
30	2	2	1	A	2	2	1	1	A	1	0+2A
31	1	2	1	4	1	2	1	A	A	2	0+2A
32	2	1	A	4	2	A	1	1	4	3	0+2A
33	A	2	1	2	2	4	2	5	A	A	0+3A
34	A	2	1	5	2	1	A	4	4	A	0+3A
35	A	1	1	4	2	2	1	A	A	1	0+3A
36	A	1	1	2	2	A	1	4	A	1	0+3A
37	2	1	1	4	1	1	1	1	(Fa)	2	1
38	4	1	1	4	2	1	1	(8)	1	2	1
39	(6)	2	1	2	1	1	1	1	4	2	1
40	2	2	1	4	1	2	1	1	(8)	1	1
41	2	2	1	4	1	1	1	1	(8)	2	1
42	2	2	1	5	2	1	1	1	(6)	2	1
43	2	2	1	2	2	(Fa)	1	2	5	2	1
44	(6)	2	1	2	2	5	1	4	4	1	1
45	2	1	1	2	2	2	1	(6)	4	2	1
46	5	1	3	2	2	(8)	2	4	5	3	1
47	2	2	1	4	2	1	1	4	(8)	2	1
48	2	2	1	2	4	1	2	1	(8)	2	1
49	2	1	1	2	2	2	1	1	(8)	2	1

SCORES FROM "UNSELECTED" AND CLINICAL SUBJECTS 169

TABLE IV—*continued*
217 WOMEN IN SERVICE

SUBJECT	CARDS										No. OF POOR ANSWERS
	I	II	III	IV	V	VI	VII	VIII	IX	X	
50	2	2	1	2	2	1	2	(8)	3	2	1
51	2	1	1	3	2	(Fa)	1	1	4	2	1
52	2	1	5	2	2	2	4	(8)	2	1	1
53	2	1	1	4	1	(8)	1	2	5	2	1
54	1	1	1	4	2	1	1	1	(8)	4	1
55	2	2	1	2	2	1	1	(8)	2	2	1
56	4	2	1	2	2	1	2	(8)	3	2	1
57	(6)	2	1	4	2	1	1	1	3	2	1
58	2	2	1	2	1	2	5	1	(8)	3	1
59	2	2	1	4	1	4	1	1	(8)	3	1
60	2	1	1	2	2	1	1	(8)	4	3	1
61	(8)	2	1	4	2	2	1	1	5	1	1
62	3	2	1	2	2	(Fa)	1	1	4	3	1
63	(8)	1	1	4	1	1	1	1	4	2	1
64	2	1	1	4	5	1	1	(8)	2	3	1
65	2	2	1	(7)	2	5	1	1	4	3	1
66	3	2	1	4	2	1	1	1	(6)	3	1
67	2	2	1	4	2	1	1	(8)	5	2	1
68	3	1	1	4	2	4	1	1	(6)	2	1
69	2	2	1	2	2	1	1	1	(6)	2	1
70	2	2	1	4	2	1	2	(8)	1	3	1
71	2	2	1	4	2	1	1	1	(8)	2	1
72	2	2	1	4	2	2	1	1	(8)	2	1
73	2	2	1	(7)	2	2	1	2	3	2	1
74	2	2	1	2	2	2	1	4	(8)	2	1
75	2	2	1	4	2	1	3	2	(8)	2	1
76	2	1	1	2	2	(Fa)	1	1	5	1	1
77	2	2	1	4	2	1	1	1	(6)	2	1
78	(6)	2	1	4	2	1	5	1	3	3	1
79	2	1	1	4	2	1	1	4	(8)	3	1
80	2	1	1	2	2	1	(Fa)	1	4	2	1
81	2	2	1	2	2	1	1	1	(8)	2	1
82	2	2	4	4	2	1	(Fa)	1	3	2	1
83	5	1	1	2	2	(8)	5	1	4	3	1
84	4	1	1	2	2	2	1	1	(8)	1	1
85	2	2	1	2	2	1	5	1	(6)	3	1
86	2	2	1	2	2	1	1	A	(8)	3	1+1A
87	1	2	1	(6)	2	A	1	2	3	2	1+1A
88	A	1	1	1	5	(8)	1	1	1	3	1+1A
89	2	1	1	2	2	A	1	4	(8)	2	1+1A
90	2	1	1	A	2	1	5	(8)	4	2	1+1A
91	2	1	1	(6)	1	2	1	1	A	3	1+1A
92	2	1	1	4	2	(Fa)	1	1	A	3	1+1A
93	(6)	1	1	4	2	1	1	1	5	A	1+1A
94	2	1	1	4	(Fa)	1	4	1	A	2	1+1A
95	2	1	1	4	1	A	1	(8)	4	2	1+1A
96	3	1	1	2	2	(8)	A	1	5	2	1+1A
97	A	2	1	2	2	A	1	1	(8)	3	1+2A
98	(8)	2	1	2	2	A	1	3	A	3	1+2A

TABLE IV—*continued*
217 WOMEN IN SERVICE

SUBJECT	CARDS										No. OF POOR ANSWERS
	I	II	III	IV	V	VI	VII	VIII	IX	X	
99	(6)	2	1	4	1	1	1	1	(8)	2	2
100	(6)	1	1	2	2	2	2	(8)	4	3	2
101	(6)	2	1	4	2	1	1	(8)	1	3	2
102	(6)	1	1	2	2	2	1	1	(6)	2	2
103	3	1	1	2	2	2	1	(8)	(6)	2	2
104	1	1	1	2	2	(8)	2	(8)	4	2	2
105	2	1	1	2	2	2	2	(8)	(6)	2	2
106	2	1	1	2	1	2	1	(8)	(6)	2	2
107	1	1	1	(7)	2	2	1	4	(6)	2	2
108	2	2	1	4	2	(Fa)	1	4	(6)	2	2
109	(6)	2	1	2	2	2	1	1	(6)	2	2
110	2	2	1	2	2	(Fa)	4	4	(6)	2	2
111	2	1	(6)	2	2	2	1	(6)	3	2	2
112	4	2	1	2	2	4	1	(8)	(8)	3	2
113	2	2	1	(7)	2	2	1	(8)	4	3	2
114	2	1	1	4	2	1	1	(8)	(6)	2	2
115	2	2	1	2	2	(Fa)	1	(8)	3	2	2
116	2	1	1	2	2	2	5	(8)	(6)	2	2
117	2	1	1	2	2	5	1	(8)	(6)	1	2
118	(6)	1	1	4	2	(8)	1	1	4	5	2
119	3	2	1	4	(6)	2	1	1	(6)	3	2
120	2	2	1	2	2	(8)	1	(8)	4	2	2
121	2	2	1	2	2	(8)	5	(8)	3	2	2
122	2	2	1	2	2	(6)	1	(8)	3	3	2
123	2	2	1	2	4	(6)	1	(8)	4	4	2
124	2	2	1	4	2	2	(6)	1	(8)	2	2
125	2	1	3	2	2	(7)	1	4	(8)	3	2
126	2	1	1	2	2	(8)	1	4	(6)	3	2
127	2	2	1	2	1	(8)	1	(8)	2	3	2
128	2	2	1	4	2	1	1	(6)	(6)	2	2
129	2	1	1	4	2	1	(Fa)	(8)	5	2	2
130	3	2	1	4	2	(Fa)	1	1	(Fa)	1	2
131	2	2	1	2	2	2	1	(8)	(8)	2	2
132	2	2	1	4	2	1	2	(8)	(6)	3	2
133	3	2	5	1	2	1	1	(6)	(7)	3	2
134	2	1	1	2	2	(8)	5	1	(8)	2	2
135	3	1	(7)	2	2	2	(7)	1	4	3	2
136	4	2	(6)	2	2	1	1	(8)	3	1	2
137	(8)	2	1	(7)	2	2	1	1	5	2	2
138	2	2	1	2	2	(8)	1	1	(8)	1	2
139	2	2	1	4	(8)	1	1	1	(Fa)	3	2
140	2	1	1	4	2	(8)	1	2	(6)	2	2
141	1	1	1	4	2	1	1	(8)	(6)	2	2
142	2	2	(7)	4	2	2	1	1	(6)	3	2
143	2	2	1	4	1	1	A	(8)	(6)	3	2+1A
144	4	2	(7)	2	2	1	2	(6)	A	2	2+1A
145	A	2	1	2	1	(Fa)	1	1	(6)	2	2+1A
146	2	2	1	4	A	2	1	(Fa)	(6)	2	2+1A
147	2	2	1	2	2	(Fa)	(7)	1	A	2	2+1A
148	(Fa)	2	1	2	A	2	1	(6)	4	3	2+1A

SCORES FROM "UNSELECTED" AND CLINICAL SUBJECTS 171

TABLE IV—*continued*
217 WOMEN IN SERVICE

SUBJECT	CARDS										No. OF POOR ANSWERS
	I	II	III	IV	V	VI	VII	VIII	IX	X	
149	2	1	1	4	2	1	A	(8)	(8)	3	2+1A
150	(6)	2	1	A	2	1	1	1	(8)	3	2+1A
151	1	2	1	2	2	(Fa)	1	(8)	A	2	2+1A
152	(8)	1	1	2	2	A	5	2	(8)	2	2+1A
153	(6)	2	1	5	2	A	5	(8)	3	4	2+1A
154	2	1	1	5	2	(Fa)	(7)	4	A	2	2+1A
155	2	2	1	2	2	(8)	(Fa)	A	5	3	2+1A
156	2	1	1	4	(Fa)	1	A	1	(8)	2	2+1A
157	(6)	1	1	2	2	(8)	1	(6)	4	2	3
158	3	1	(6)	2	2	(Fa)	1	(8)	5	2	3
159	2	2	(6)	2	2	(8)	5	1	(8)	2	3
160	2	1	4	4	2	5	(7)	(6)	(8)	2	3
161	2	2	1	4	2	(8)	1	(8)	(Fa)	2	3
162	(6)	2	1	4	2	2	1	(8)	(Fa)	3	3
163	3	2	1	5	2	(8)	(7)	1	3	(Fa)	3
164	2	(8)	1	4	2	1	3	(8)	(8)	3	3
165	(6)	1	1	2	2	(8)	1	(8)	4	3	3
166	(6)	1	1	4	2	(8)	1	(8)	4	3	3
167	3	2	1	2	2	(8)	(7)	2	(8)	3	3
168	2	(8)	1	(7)	2	2	(6)	1	3	3	3
169	2	(Fa)	1	4	2	1	1	(8)	3	(Fa)	3
170	2	(7)	1	2	2	(Fa)	1	4	(6)	2	3
171	2	1	1	4	2	(6)	1	(8)	(8)	1	3
172	(8)	2	1	2	2	(8)	1	1	(7)	3	3
173	(7)	2	1	4	2	1	1	(6)	(6)	2	3
174	2	1	1	4	2	(Fa)	2	1	(8)	(Fa)	3
175	2	1	1	4	2	(Fa)	1	(Fa)	(8)	2	3
176	2	2	1	2	2	(8)	1	(8)	(8)	2	3
177	3	2	1	2	2	(7)	1	(8)	(8)	3	3
178	(6)	1	1	4	2	(7)	1	1	(6)	3	3
179	2	2	1	4	2	(Fa)	1	(8)	(8)	2	3
180	2	2	1	2	2	(7)	1	(8)	(8)	3	3
181	2	2	1	4	2	(8)	1	(8)	(6)	3	3
182	2	(Fa)	1	2	2	(8)	1	(8)	4	3	3
183	(6)	2	1	2	2	1	1	(8)	(8)	2	3
184	3	1	1	2	2	(8)	1	(8)	(6)	2	3
185	2	1	1	2	2	(8)	(7)	(8)	4	2	3
186	(6)	2	1	2	1	2	1	(8)	(Fa)	2	3
187	(Fa)	2	1	4	2	(7)	1	(8)	A	4	3+1A
188	A	1	1	5	2	(8)	(8)	1	(8)	2	3+1A
189	(8)	2	1	4	2	A	1	(8)	(Fa)	2	3+1A
190	A	2	1	2	2	(8)	1	(6)	(8)	1	3+1A
191	2	(7)	A	(6)	2	1	1	2	(6)	3	3+1A
192	2	1	1	A	(7)	(8)	A	1	(8)	3	3+2A
193	2	(8)	1	2	1	(8)	A	(8)	4	A	3+2A
194	A	2	1	A	2	1	1	A	A	2	0+4A
195	A	2	1	4	2	A	(7)	1	A	3	1+3A
196	2	1	1	(Fa)	2	A	1	(8)	A	3	2+2A

TABLE IV—*continued*
217 WOMEN IN SERVICE

SUBJECT	CARDS										No. of POOR ANSWERS
	I	II	III	IV	V	VI	VII	VIII	IX	X	
197	A	2	1	1	2	(8)	1	(8)	A	4	2+2A
198	2	1	1	(7)	2	(8)	(Fa)	1	(6)	2	4
199	2	(8)	(6)	(7)	2	(Fa)	1	4	5	5	4
200	(6)	1	1	(8)	2	(Fa)	1	1	(6)	1	4
201	2	(Fa)	1	2	2	(Fa)	5	(8)	(6)	2	4
202	(6)	(Fa)	1	2	2	(8)	5	(8)	4	2	4
203	(6)	1	1	2	2	2	(6)	(8)	(6)	2	4
204	(8)	4	1	2	2	(8)	1	(8)	(6)	2	4
205	(6)	2	1	1	2	1	(Fa)	(8)	(8)	2	4
206	2	1	1	2	2	(8)	(7)	(8)	(6)	2	4
207	(6)	2	1	2	1	(Fa)	1	(8)	(6)	1	4
208	2	(7)	1	(7)	2	1	(6)	1	(6)	2	4
209	3	1	1	2	A	A	1	A	A	A	0+5A
210	(8)	1	1	5	2	(8)	(7)	(8)	(8)	3	5
211	(6)	(7)	1	2	(Fa)	(8)	2	(8)	4	2	5
212	(6)	2	1	2	2	(8)	(Fa)	(8)	(8)	2	5
213	2	1	(6)	2	(Fa)	(Fa)	(7)	(8)	3	3	5
214	(6)	2	(6)	2	2	1	(7)	(6)	(8)	2	5
215	3	(7)	(6)	2	2	(8)	(7)	(8)	(8)	(7)	7
216	(7)	(8)	(8)	(7)	2	(7)	(7)	(8)	(6)	2	8**
217	(Fa)	(Fa)	?	2	?	?	?	?	?	?	9

** Diagnosed as conversion hysteria.

TABLE V
225 PRISONERS IN STATE PRISON

SUBJECT	CARDS										No. of POOR ANSWERS
	I	II	III	IV	V	VI	VII	VIII	IX	X	
1	3	1	1	4	2	4	1	1	1	2	0
2	3	1	1	2	2	4	1	1	3	2	0
3	2	1	1	2	2	2	1	2	1	2	0
4	2	1	1	2	2	2	5	2	1	2	0
5	2	1	1	2	2	2	5	2	1	2	0
6	2	1	2	2	2	1	1	2	1	4	0
7	3	2	1	3	2	1	1	1	1	4	0
8	3	1	1	4	2	1	1	1	1	2	0
9	2	3	1	4	2	2	1	1	3	2	0
10	2	3	1	2	2	2	1	4	1	2	0
11	3	1	2	2	2	5	1	2	4	1	0
12	3	2	3	4	2	3	1	4	1	3	0

TABLE V—*continued*
225 PRISONERS IN STATE PRISON

SUBJECT	CARDS										No. of POOR ANSWERS
	I	II	III	IV	V	VI	VII	VIII	IX	X	
13	4	4	1	2	2	4	2	2	3	2	0
14	2	1	1	2	2	3	1	1	4	2	0
15	2	1	1	2	2	3	1	1	4	2	0
16	2	3	1	4	1	A	5	2	1	3	0+1
17	3	3	1	2	2	2	1	(9)	4	2	1
18	(6)	3	1	3	2	1	1	1	4	2	1
19	2	1	1	4	2	2	(8)	2	3	2	1
20	2	1	1	2	2	2	(6)	1	1	1	1
21	2	1	1	2	2	3	1	(6)	4	2	1
22	2	1	1	4	2	(9)	1	2	4	2	1
23	3	1	3	4	2	2	(8)	2	4	4	1
24	3	(Fa)	3	4	2	3	1	2	4	2	1
25	3	1	1	4	2	4	(Fa)	1	1	2	1
26	2	1	1	5	2	(6)	1	1	4	3	1
27	3	2	1	3	2	4	(6)	1	3	2	1
28	3	(7)	3	2	4	2	5	3	1	3	1
29	2	1	1	2	2	2	1	3	(6)	4	1
30	3	2	1	3	2	4	(6)	1	3	2	1
31	3	1	(6)	2	2	4	1	1	4	5	1
32	2	3	1	3	2	2	4	(9)	1	5	1
33	(7)	1	1	4	2	2	1	4	1	3	1
34	(6)	1	1	1	2	2	1	1	1	1	1
35	2	3	1	2	2	(Fa)	5	1	3	1	1
36	3	1	1	4	2	1	(6)	1	3	2	1
37	(9)	3	1	2	2	2	1	1	4	3	1
38	2	1	3	4	2	2	1	(7)	2	1	1
39	3	1	1	4	2	(8)	2	4	1	2	1
40	2	1	2	4	2	2	1	1	(6)	3	1
41	3	1	1	4	2	4	(6)	1	1	2	1
42	3	1	1	4	2	(6)	1	1	2	4	1
43	3	1	2	4	2	(6)	2	1	3	2	1
44	5	4	1	5	2	(6)	2	1	4	2	1
45	3	2	(8)	4	2	2	2	1	4	1	1
46	(6)	3	1	4	2	2	1	2	1	5	1
47	3	1	1	3	1	3	(8)	1	3	4	1
48	2	2	3	4	2	4	4	5	(9)	2	1
49	A	3	1	2	1	A	1	2	1	4	0+2A
50	3	3	1	4	2	A	1	1	1	A	0+2A
51	A	1	1	4	2	(9)	1	1	1	3	1+1A
52	2	1	1	A	2	(8)	2	1	4	4	1+1A
53	3	1	(Fa)	3	1	2	2	A	4	3	1+1A
54	2	(9)	1	4	2	(9)	5	2	3	1	2
55	5	1	3	4	2	2	(8)	1	3	(7)	2
56	(9)	2	1	2	2	4	(9)	4	1	2	2
57	3	4	1	2	2	(Fa)	(8)	1	3	3	2
58	5	3	1	4	2	(9)	(8)	1	4	3	2
59	2	2	1	2	2	2	(8)	4	(Fa)	2	2
60	2	1	1	4	2	(Fa)	(9)	2	3	2	2

TABLE V—*continued*
225 PRISONERS IN STATE PRISON

SUBJECT	CARDS										No. OF POOR ANSWERS
	I	II	III	IV	V	VI	VII	VIII	IX	X	
61	3	4	3	2	2	(6)	(6)	1	3	2	2
62	3	1	1	2	2	(7)	2	1	1	(8)	2
63	5	1	1	3	2	4	2	(7)	3	(Fa)	2
64	(6)	1	1	4	2	2	1	(7)	1	1	2
65	2	1	1	4	2	(Fa)	1	(6)	4	2	2
66	3	1	1	2	2	(7)	(9)	1	4	1	2
67	5	(6)	(9)	2	2	1	1	2	4	2	2
68	2	2	3	4	2	2	4	(6)	(9)	2	2
69	(6)	1	1	4	2	2	(6)	4	1	3	2
70	(9)	(9)	3	4	2	2	1	2	4	2	2
71	3	(6)	1	4	2	2	1	(6)	1	3	2
72	(7)	1	2	4	2	(6)	1	3	4	3	2
73	5	4	1	5	2	(6)	(6)	1	4	2	2
74	3	1	1	4	2	(7)	(8)	1	1	2	2
75	2	3	1	2	2	(6)	1	(Fa)	2	2	2
76	3	1	1	4	2	4	(6)	2	(7)	2	2
77	3	1	1	4	2	4	(6)	2	(7)	2	2
78	3	(6)	1	2	2	2	(6)	1	1	3	2
79	3	(6)	1	1	2	2	(6)	1	1	3	2
80	3	2	1	2	2	2	(6)	2	(7)	2	2
81	2	3	(8)	2	2	2	1	1	(6)	3	2
82	(6)	1	1	2	2	2	1	1	(6)	3	2
83	3	(9)	3	3	(8)	3	2	1	4	3	2
84	(7)	4	2	2	2	4	(7)	1	4	2	2
85	3	2	1	4	2	(6)	1	1	(6)	2	2
86	3	1	1	2	2	(Fa)	1	(6)	1	3	2
87	3	(9)	1	4	2	3	1	4	(9)	1	2
88	3	(9)	1	4	2	2	1	(9)	4	3	2
89	2	1	1	(Fa)	2	2	5	(6)	1	2	2
90	3	3	1	4	2	2	(8)	(7)	1	3	2
91	(6)	1	1	2	2	(7)	1	1	1	4	2
92	3	1	2	2	2	2	(8)	(7)	1	3	2
93	2	3	1	4	2	3	(9)	1	(6)	2	2
94	(7)	2	(6)	2	2	5	5	1	1	3	2
95	2	2	(6)	4	2	(Fa)	1	2	4	1	2
96	2	1	(8)	2	2	(Fa)	2	2	1	5	2
97	2	1	1	4	2	2	(6)	(6)	4	3	2
98	3	1	1	2	2	(Fa)	(6)	1	4	3	2
99	(6)	2	1	2	2	1	1	1	A	(8)	2+1A
100	5	2	A	4	2	(7)	(6)	1	1	5	2+1A
101	3	2	A	4	2	(8)	(9)	1	4	2	2+1A
102	2	2	1	2	2	A	(9)	1	(Fa)	3	2+1A
103	2	(7)	1	2	2	(7)	5	1	(6)	2	3
104	2	(9)	1	4	2	5	(6)	1	(9)	2	3
105	3	3	(8)	2	2	1	(8)	(7)	4	2	3
106	2	(9)	1	4	2	2	2	(6)	(6)	2	3
107	(8)	1	1	4	2	2	1	(6)	(Fa)	3	3
108	2	3	2	3	2	2	(Fa)	(6)	(Fa)	2	3
109	2	1	(8)	4	2	(9)	(8)	3	1	2	3

TABLE V—*continued*
225 PRISONERS IN STATE PRISON

SUBJECT	CARDS										No. of Poor Answers
	I	II	III	IV	V	VI	VII	VIII	IX	X	
110	(6)	4	1	2	2	(8)	(9)	1	4	3	3
111	3	4	1	1	2	(6)	1	(9)	(9)	3	3
112	(6)	1	3	2	2	2	(9)	(6)	1	3	3
113	(6)	2	1	(9)	2	2	1	2	(7)	2	3
114	3	(9)	(8)	4	2	1	3	2	(9)	2	3
115	2	(9)	(6)	1	2	3	(6)	1	1	3	3
116	2	2	1	2	2	(6)	(Fa)	1	(9)	2	3
117	1	(9)	2	2	(9)	3	(8)	2	1	3	3
118	2	(9)	1	4	2	2	2	(6)	(6)	2	3
119	(6)	(9)	3	4	2	3	(8)	4	1	2	3
120	(7)	(7)	1	2	2	2	1	1	(6)	2	3
121	3	1	1	4	2	(6)	1	(Fa)	(6)	4	3
122	3	1	1	(9)	2	(6)	1	1	(6)	4	3
123	2	(9)	1	2	2	(8)	1	1	2	(9)	3
124	3	1	1	4	2	(7)	(8)	1	(6)	2	3
125	2	1	1	2	2	(6)	(6)	3	(7)	2	3
126	(7)	1	(8)	4	2	3	(9)	2	1	2	3
127	3	(9)	3	5	2	(6)	(7)	4	1	1	3
128	(9)	(9)	3	2	2	2	(Fa)	1	1	1	3
129	(6)	3	3	2	2	4	2	(9)	(7)	2	3
130	2	(7)	(6)	2	2	(9)	4	1	1	2	3
131	2	(9)	3	2	2	3	(8)	(9)	3	4	3
132	2	(9)	2	2	2	2	(8)	(9)	3	4	3
133	3	1	(6)	2	2	(7)	5	1	1	(6)	3
134	2	(7)	3	4	2	5	(8)	2	(Fa)	1	3
135	5	(6)	(7)	(6)	2	3	5	4	1	1	3
136	(8)	(Fa)	1	2	2	2	(7)	4	1	8	3
137	2	(9)	1	2	2	(9)	(6)	1	4	1	3
138	2	1	3	2	2	(9)	(6)	(9)	4	2	3
139	5	1	1	4	2	(Fa)	(9)	1	(6)	2	3
140	(9)	(9)	1	4	5	(6)	1	4	4	2	3
141	(6)	1	1	4	2	(6)	(9)	1	4	2	3
142	(6)	1	3	2	2	3	5	(7)	(6)	2	3
143	2	(7)	(6)	2	2	2	(9)	4	1	2	3
144	(7)	4	1	4	2	4	(6)	2	3	(8)	3
145	2	1	1	(7)	2	2	(6)	(7)	4	4	3
146	2	1	1	3	2	(9)	(6)	(7)	4	2	3
147	3	1	1	4	2	(7)	(6)	1	(9)	1	3
148	3	1	1	4	2	(7)	(7)	(6)	3	1	3
149	3	2	1	4	2	2	(Fa)	1	(9)	(9)	3
150	(6)	1	1	2	2	(9)	(9)	1	1	2	3
151	2	1	1	5	A	A	1	2	A	A	0+4A
152	A	1	(6)	A	2	A	1	2	4	4	1+3A
153	(6)	1	1	4	1	A	(Fa)	2	(7)	5	3+1A
154	A	1	1	5	(8)	(6)	1	(9)	1	4	3+1A
155	A	3	(6)	2	2	2	(6)	4	1	(8)	3+1A
156	(6)	3	1	4	2	(Fa)	5	(6)	(6)	1	4
157	2	(7)	5	(8)	2	2	(7)	4	(6)	2	4
158	(6)	1	1	2	2	(Fa)	(6)	1	(9)	3	4

TABLE V—*continued*
225 PRISONERS IN STATE PRISON

SUBJECT	CARDS										No. of Poor Answers
	I	II	III	IV	V	VI	VII	VIII	IX	X	
159	1	1	(Fa)	3	2	2	(Fa)	(Fa)	(6)	2	4
160	2	1	(6)	(7)	2	2	(9)	1	(6)	3	4
161	2	(9)	(9)	2	2	2	5	(9)	(8)	2	4
162	(9)	1	1	2	2	(6)	(9)	1	(6)	2	4
163	2	(9)	3	2	2	(9)	1	(9)	(9)	3	4
164	2	2	1	4	2	(9)	1	(6)	(Fa)	(9)	4
165	(6)	(9)	3	4	2	3	(8)	4	(7)	5	4
166	(6)	3	3	4	2	(8)	(9)	4	(7)	2	4
167	(6)	3	(9)	4	2	(7)	(8)	1	3	4	4
168	(7)	1	1	2	2	1	(Fa)	(6)	(Fa)	3	4
169	(9)	(7)	1	2	2	2	(Fa)	1	(9)	2	4
170	2	(9)	3	2	2	3	(8)	(6)	(7)	2	4
171	2	(9)	3	4	2	5	(8)	(6)	(Fa)	1	4
172	1	(9)	3	1	2	(6)	(9)	(9)	3	4	4
173	2	(6)	1	2	2	(6)	(6)	(6)	4	2	4
174	(7)	1	1	2	2	(Fa)	(6)	(9)	4	3	4
175	(6)	3	(6)	2	(9)	4	(6)	2	4	3	4
176	(6)	1	(5)	2	2	(6)	(8)	1	4	2	4
177	(7)	(7)	(6)	2	2	2	(9)	1	1	2	4
178	2	4	1	2	2	(Fa)	(8)	4	(6)	(8)	4
179	3	(9)	2	(8)	2	(8)	(6)	4	4	3	4
180	2	1	(9)	2	2	(7)	(8)	1	(6)	1	4
181	2	2	(6)	2	2	(Fa)	(8)	(9)	3	5	4
182	2	(9)	4	2	2	2	(Fa)	(7)	(6)	3	4
183	2	(9)	(7)	2	2	2	(Fa)	(7)	1	2	4
184	(7)	(9)	1	2	2	(Fa)	5	1	(6)	2	4
185	2	(9)	1	4	2	(6)	(8)	(6)	4	2	4
186	2	1	1	(6)	2	(6)	(8)	(6)	4	2	4
187	3	4	(6)	4	2	(8)	(9)	1	(6)	1	4
188	3	4	(6)	4	2	(8)	(7)	1	(6)	2	4
189	3	1	1	4	2	(7)	(7)	(6)	(8)	1	4
190	(7)	3	1	(6)	2	5	(6)	1	(6)	1	4
191	A	4	(Fa)	4	(6)	2	(6)	1	(Fa)	2	4+1A
192	(6)	2	A	5	2	2	(6)	2	(6)	(6)	4+1A
193	(7)	1	(8)	4	2	(7)	(6)	(9)	4	2	5
194	2	(9)	1	4	2	(9)	(Fa)	(6)	(6)	1	5
195	(Fa)	1	(8)	3	2	(6)	(8)	(9)	3	2	5
196	3	(9)	(8)	2	2	(6)	1	(7)	(9)	2	5
197	(6)	1	(Fa)	2	2	(7)	1	2	(6)	(9)	5
198	3	(9)	1	3	2	3	(Fa)	(7)	(9)	(9)	5
199	(Fa)	(9)	(6)	2	2	5	(8)	(6)	3	2	5
200	(6)	2	1	(7)	2	(6)	(6)	2	(6)	3	5
201	(7)	1	(6)	2	2	(8)	(6)	(6)	4	2	5
202	3	4	(6)	4	2	(8)	(9)	(7)	(6)	1	5
203	(6)	3	1	4	2	(7)	(6)	(7)	(Fa)	1	5
204	(6)	1	(Fa)	2	2	(Fa)	(Fa)	1	(6)	2	5
205	(Fa)	(Fa)	(Fa)	2	2	(Fa)	A	(Fa)	2	1	5+1A
206	(6)	1	(6)	2	2	(6)	(6)	A	(6)	3	5+1A

TABLE V—*continued*
225 PRISONERS IN STATE PRISON

SUBJECT	CARDS										No. OF POOR ANSWERS
	I	II	III	IV	V	VI	VII	VIII	IX	X	
207	3	A	(Fa)	3	2	(6)	(6)	(6)	(6)	2	5+1A
208	3	(9)	(9)	(7)	2	(Fa)	(Fa)	(6)	1	3	6
209	(7)	(Fa)	(9)	2	2	(Fa)	(6)	(6)	4	3	6
210	(6)	(9)	(9)	2	2	(9)	4	(6)	(6)	3	6
211	2	2	(8)	(Fa)	2	(7)	(6)	(6)	(6)	2	6
212	3	3	1	(8)	(6)	(7)	(8)	(9)	(9)	4	6
213	(9)	(9)	(9)	2	2	(9)	(9)	4	1	(8)	6
214	(6)	(9)	1	2	2	5	(9)	(6)	(6)	(6)	6
215	(9)	(9)	(9)	2	2	(9)	(9)	4	4	(8)	6
216	2	(9)	(9)	2	2	(7)	(9)	(6)	1	(8)	6
217	5	(7)	1	(9)	2	(9)	(6)	(7)	1	(8)	6
218	(Fa)	(9)	1	1	(9)	(7)	2	(6)	(9)	4	6
219	(7)	(8)	1	2	2	(8)	(8)	1	(6)	(9)	6
220	(7)	4	(9)	(7)	2	A	(Fa)	(Fa)	A	3	5+2A
221	2	(9)	(6)	(9)	2	3	(8)	(7)	(9)	(8)	7
222	(6)	(Fa)	(Fa)	2	2	(6)	(6)	(6)	1	(8)	7
223	(6)	(6)	(6)	(7)	2	(7)	(6)	(6)	(6)	3	8
224	2	1	(6)	(6)	(7)	(6)	(8)	(6)	(9)	(8)	8
225	(7)	(6)	(6)	(8)	2	(6)	(6)	(6)	(6)	(6)	9

TABLE VI
36 STUDENTS FROM ELEMENTARY SCHOOL

SUBJECT	AGE	CARDS										No. of Poor Answers
		I	II	III	IV	V	VI	VII	VIII	IX	X	
1	12	3	1	1	1	2	2	1	2	2	2	0
2	11	2	1	1	4	2	5	3	2	5	4	0
3	11	4	2	1	5	2	4	1	1	1	2	0
4	10	3	3	1(4)	4	2	1	2	2(6)	4	2	0+1
5	10	A	3	1	4	2	1	1	2	1	2	0+1A
6	10	3	3	1	2	1	A	1	2	2	2	0+1A
7	10	3	5	5	A	2	A	4	1	3	3	0+2A
8	10	A	4	4	4	A	1	1	A	3	4	0+2A
9	12	2	3	1	(8)	2	2	1	5	3	2	1
10	10	3	2	1	3	2	1	1	(7)	4	2	1
11	11	2	3	4	2	2	2	1	(6)	4	2	1
12	11	2	2	1	4	2	(A)	1	(7)	3	2	1+1A
13	13	2	2	1	4	2	(Fa)	1	A	3	2	1+1A
14	12	A	1	3	4	2	2	1	(7)	3	3	1+1A
10	10	(7)	3	4	5	2	A	1	2	4	2	1+1A
16	10	A	2	1	1	2	A	3	5	(7)	2	1+2A
17	12	2	2	(6)	2	2	2	1	(7)	3	2	2
18	11	3	3	5	(7)	2	(Fa)	1	4	1	2	2
19	11	3	2	1	(6)	1	3	1	5	(7)	2	2
20	11	2	2	1	3	2	4	1	(6)	(9)	2	2
21	10	2	3	1	(7)	2	(Fa)	1	4	3	2	2
22	11	3	4	5	5	2	3	(8)	(6)	4	3	2
23	11	2	2	5	2	2	A	4	(6)	(7)	2	2+1A
24	10	3	3	3	(7)	2	(Fa)	1	A	4	2	2+1A
25	10	1	(7)	1	4	2	4	1	(7)	(6)	2	3
26	12	3	(7)	4	(7)	2	4	3	3	(6)	3	3
27	11	3	1	(6)	2	(Fa)	3	4	(6)	1	4	3
28	11	(6)	2	1	2	2	2	(9)	5	(6)	2	3
29	11	3	3	1	(7)	(6)	4	(8)	A	1	2	3+1A
30	10	A	3	1	2	(Fa)	A	1	(7)	(9)	A	3+3A
31	11	3	2	1	2	2	(6)	1	(6)	(6)	(8)	4
32	11	3	3	(9)	2	2	(9)	3	(9)	(9)	3	4
33	11	3	2	1	2	2	(9)	(8)	(9)	(7)	2	4
34	11	2	1	1	2	(Fa)	3	A	(6)	(Fa)	(Fa)	4+1A
35	12	(7)	2	(8)	2	2	(9)	4	(9)	(9)	3	5
36	11	3	(9)	(6)	(6)	2	(6)	A	(6)	(6)	3	6+1A

NOTE: Five of the eight children below the line were reported as problems by their teachers.

SECTION III

Expanded Multiple Choice Records

A SOMEWHAT different use can be made of the Multiple Choice Test if it is in the hands of experienced Rorschach workers, and if slightly different instructions are given to the subject.

The examiner asks the subject, for instance, to check in order of preference, *all the answers to any card which he finds acceptable*, or can see in the blot. This will result in from 20–35 responses being given. These can then be scored in the traditional Rorschach manner, or if technicians are employed, a chart with all the regular scoring symbols can be consulted, and a psychogram made which can give added information, in the traditional Rorschach terms, about the individual who has taken the test.

We have included here a few sample records, with their psychograms, four from unselected normal individuals (see page 188) and four from clinical cases (see page 189). The amazing variety that can be obtained even with this framework is striking.

Once the records have been scored in the traditional Rorschach manner they are, of course, technically amenable to the usual kind of interpretative principles. Although many validating studies will have to be made before one can be sure that these interpretative principles still hold under the new conditions of testing, it is worth contrasting some of the findings from our normal and psychotic subjects.

For instance, the summary of the determinants for Subject 1 (page 180) and Patient 1 (page 184) present very different Rorschach pictures. These two individuals are equally different behaviorally. Subject 1 is an unusually productive and well adjusted individual, combining successful creative work with social availability and friendliness. The M:C ratio, although essentially introversive, reflects this dual facet of personality. The lack of F — answers, and the F% (24%) show intellectual integrity and control without undue constriction. The FM answers, and their subordination to the M score, is another feature indicating this subject's maturity. On the other hand Patient 1 shows in the lack of FC answer, in the high C', CF and C scores, in the F-answers, and lack of FM responses some of the abnormal features which characterize him clinically.

In Sections VI and VII Due, Wright and Wright have demonstrated the practical application and further use of these suggestions.

TABLE I
Expanded Multiple Choice Record
 Subject No. 1

CARD	LOCATION	DETERMINANT	CONTENT
I	W	F	Obj.
	D	M	H
II	W	M	H
	S	F	Obj.
III	W'	M	H
	D	FC	Obj.
IV	W	M	H
	W'	cF	Aobj.
	D	F	Obj.
	W	FM, Fc	A
V	W	M	H
	W	F	A
	d	F	Hd
	d	F	Obj.
VI	D	Fc	Obj.
	W'	cF	Aobj.
VII	W	M	H
	W	K	Cl.
	W	k	Geog.
	W	F	Obj.
VIII	W	FC	Emb.
	D	FM	A
	D	FC	Obj.
IX	D	FC	A
	W	CF, K, m	Explosion
	D	M	H
X	D	M	H
	W	FC	Obj.
	W	FM	A
	R 29 W 17 D 9 d 2 S 1	M 8 FM 3 m +1 k 1 K 1+1 F 7 Fc 1+1 c 2 FC 5 CF 1	Multiple Choice Summary Number of poor answers: 2 Percent poor answers: 7

TABLE II
Expanded Multiple Choice Record
 Subject No. 2

CARD	LOCATION	DETERMINANT	CONTENT
I	W	F	Emb.
	W	F	A
II	W	CF	At.
	W'	FM	A
III	W	F—	At.
	D	FM	A
	D	FC	Obj.
IV	W	cF	Aobj.
	D	F	Ad
V	W	M	H
	d	F	Hd
	W	F	A
	d	F	Obj.
VI	D	Fc	Obj.
	W'	cF	Aobj.
VII	W	M	H
	D	F	A
	W	F	Geog.
VIII	W	CF	At.
	W	FC	Emb.
IX	D	FC	A
	D	F	Obj.
	W	FC	Pl.
X	D	FM	A
	R 24 W 14 D 8 d 2	M 2 FM 3 F 9 F— 1 Fc 1 c 2 FC 4 CF 2	Multiple Choice Summary Number of poor answers: 3 Percent poor answers: 13

TABLE III
Expanded Multiple Choice Record

Subject No. 3

CARD	LOCATION	DETERMINANT	CONTENT
I	W W'	F F	At. A
II	W' W	FM CF	A At.
III	W'	M	H
IV	W W	FM, Fc cF	A Aobj.
V	W d W	F F M	A Hd H
VI	D W'	F cF	Hd Aobj.
VII	W	M	H
VIII	W D	F— FM	X-ray A
IX	W D	FC F	Pl. Obj.
X	W W	FM FC	A Pl.
	R 19 W 15 D 3 d 1	M 3 FM 4 F 6 F— 1 Fc +1 cF 2 FC 2 CF 1	Multiple Choice Summary Number of poor answers: 2 Percent poor an- swers: 10

TABLE IV
Expanded Multiple Choice Record
 Subject No. 4

CARD	LOCATION	DETERMINANT	CONTENT
I	W	F	A
	W	F	Emb.
II	W	M	H
	W'	FM	A
III	W'	FM	A
	D	FC	Obj.
	D	CF	Paint
IV	D	F	Ad
	D	F	Obj.
V	W	F	A
VI	W'	cF	Aobj.
VII	W	F	Geog.
	W	M	H
	W	F	Obj.
VIII	W	FC	Pl.
	D	FM	A
	D	FC	Obj.
	W	FC	Emb.
IX	D	FC	A
	W	CF	At.
X	W	FM	A
	R 21 W 14 D 7	M 2 FM 4 F 7 c 1 FC 5 CF 2	Multiple Choice Summary Number of poor answers: 2 Percent poor answers: 10

TABLE V
Expanded Multiple Choice Record

Patient No. 1

CARD	LOCATION	DETERMINANT	CONTENT
I	W W	C', c F	Mud and dirt A
II	W S	CF F	At. Obj.
III	W' W W D	M F— C CF	H At. Color Paint
IV	W W	C', c C', K, c	Mess Smoke and dirt
V	W W	F F—	A At.
VI	W W' W' W	k cF C', K, c C'	X-ray Aobj. Mud and water Smudge
VII	W W	M C', c	H Ice and snow
VIII	W W	C CF	Color At.
IX	W	C	Color
X	Failure		
	R 21 W 19 D 1 S 1	M 2 k 1 K +2 F 3 F— 2 c 1+5 C' 6 CF 3 C 3	Multiple Choice Summary Number of poor answers: 15 Percent poor answers: 71

TABLE VI
Expanded Multiple Choice Record

Patient No. 2

CARD	LOCATION	DETERMINANT	CONTENT
I	W	F—	At.
II	W	CF	At.
	W	CF, m	Bomb
III	W'	M	H
	W	F—	At.
	W	C	Color
IV	W	C', c	Mess
	D	F	Obj.
	W	k	X-ray
V	d	F	Ad
	W	k	X-ray
	W	F	A
VI	W	k	X-ray
	D	Fc	Obj.
VII	W	K	Cl.
	W	k	Map
VIII	W	FC	Pl.
	D	FM	A
IX	W	CF, K, m	Explosion
X	W	FM	A
	R 20 W 16 D 3 d 1	M 1 FM 2 m +2 k 4 K 1+1 F 3 F— 2 Fc 1 c +1 C' 1 FC 1 CF 3 C 1	Multiple Choice Summary Number of poor answers: 11 Percent poor answers: 55

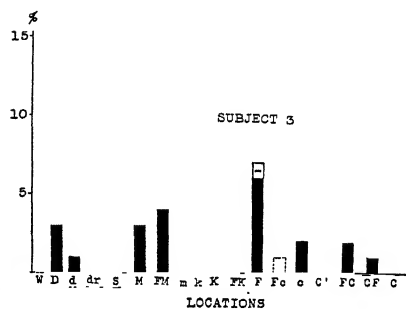
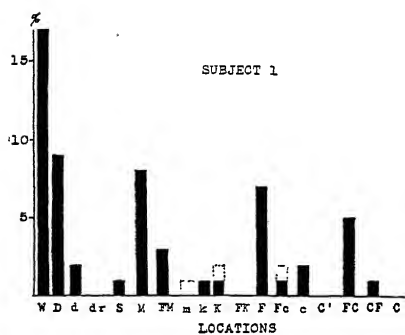
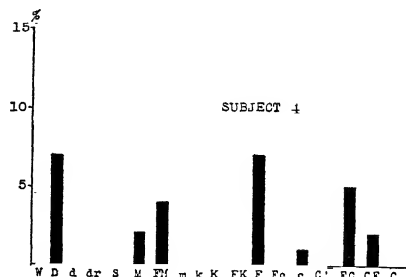
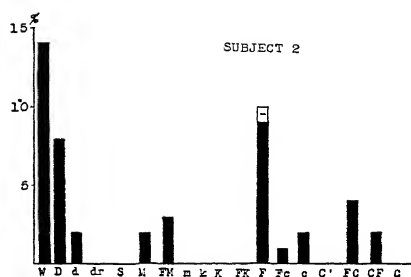
TABLE VII
Expanded Multiple Choice Record
 Patient No. 3

CARD	LOCATION	DETERMINANT	CONTENT
I	D W W	M k F	H X-ray A
II	Failure		
III	W'	M	H
IV	W W	F— cF	At. Aobj.
V	W	F	A
VI	W'	cF	Aobj.
VII	d W	Fc K	Ad Cl.
VIII	W W	F— CF	X-ray At.
IX	W W	CF CF, K, m	At. Explosion
X	W W	F— CF	X-ray At.
	R 16 W 14 D 1 d 1	M 2 m +1 k 1 K 1+1 F 2 F— 3 Fc 1 c 2 CF 4	Multiple Choice Summary Number of poor answers: 9 Percent poor answers: 56

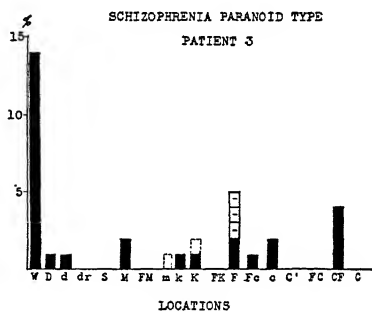
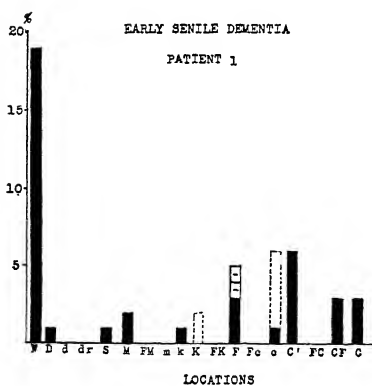
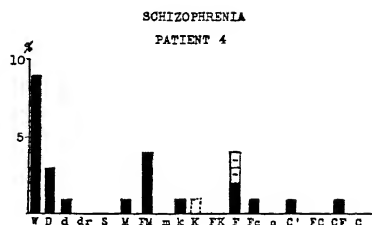
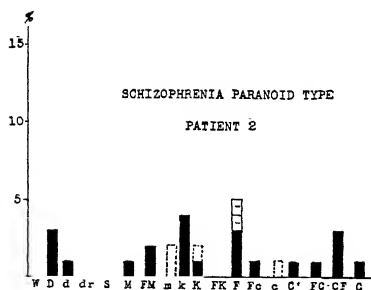
TABLE VIII
Expanded Multiple Choice Record
 Patient No. 4

CARD	LOCATION	DETERMINANT	CONTENT
I	W	F—	At.
II	W'	FM	A
III	W W'	F— FM	At. A
IV	Failure		
V	d W	F C', K	Hd Cl.
VI	D	Fc	Totem
VII	W W	k M	X-ray H
VIII	W D	CF FM	At. A
IX	D	F	Ad
X	W	FM	A
	R 13 W 9 D 3 d 1	M 1 FM 4 k 1 K +1 F 2 F— 2 Fc 1 C' 1 CF 1	Multiple Choice Summary Number of poor answers: 6 Percent poor answers: 46

EXPANDED MULTIPLE CHOICE RECORDS
4 UNSELECTED NORMALS



EXPANDED MULTIPLE CHOICE RECORDS
PSYCHOGRAMS OF FOUR PSYCHIATRIC PATIENTS



The Effect of Repetition on Multiple Choice Test Scores

A QUESTION which naturally comes to mind in connection with the Multiple Choice Test is that of its reliability. Will an individual who gives a good record, let us say, with only one poor answer, give an equally good record if he repeats the test after a short interval of time?

To answer this question we have recorded here the results of 113 subjects who were retested at short intervals, intervals which we can presume were "neutral" in that no significant change to the individual's personality structure could have occurred.

Fifty-three subjects were retested after a period of one hour (Group A); 60 were retested after an interval of 24 hours (Group B). The records submitted by these individuals have been analyzed by three methods. In the first we have paid attention only to the first answers recorded; that is, we have considered a record "unchanged" when the score of the first answers remained the same on both tests. In the second method we have taken second answers into account: a record is unchanged only if all 20 answers remain the same on the two tests. Method 3 has included alternate answers as poor answers (regardless of their quality) in addition to taking both first and second choices into account.

Results from these short intervals of time are very striking. Regardless of what method of handling the records and scoring is employed, only a very small percentage of individuals shows a change of more than two places, that is, of more than two poor answers appearing in one record and not in the other. In the group repeating the test after one hour, only 2% of the records change in this way (4% in methods 2 and 3). In those repeating the test after one day, 7% show such a change. It should also be noticed that the changes occur both in the direction of an improvement and in the direction of a less good record. In marked contrast to this are the results obtained from certain experimental groups in which the interval has not been a "neutral" one but has, for instance, included the taking of some drug. In these experimental groups it has been found that as many as 72% of the individuals show a change of more than two places and, moreover, that the change, in the particular groups under consideration, has been only in terms of an

improvement in the record. Jacobs (1) has reported one such series with regression neuroses when the drug used was combined amphetamine sulfate and belladonna alkaloid. Table II on page 194 taken from his text epitomizes his results concerning which he writes:

"All of the patients, except case 1, received this test before therapy was commenced. All except cases 4 and 8 gave over four abnormal responses at that time. These subjects exhibited only two. The former's record, at present, shows only normal responses, as do those of cases 3, 5, and 6. Those of cases 2, 7, and 8 show 1 abnormal response; case 1 shows 3 abnormal responses. Of especial interest are the tests performed upon case 7. Before therapy he gave seven pathological answers. Three days after combined amphetamine sulfate and belladonna medication was instituted, six such responses occurred. Five days later, he scored "4"; after eight days, "3"; after ten days, "2." This score remained unchanged for fifteen days, notwithstanding symptomatic improvement. At that time belladonna was withheld and amphetamine sulfate continued for four days. At the end of this period, during which there was an increase of symptoms, his test produced three abnormal responses. Belladonna was again added and in three days the score had dropped to "2." Within one week, this had decreased to "1," at which point it has remained. At no time did this patient receive active psychotherapy or an explanation of the purpose of the tests. He was merely asked to return regularly to the clinic, "in order that his medication could be regulated."

REFERENCE

1. JACOBS, JAMES S. L. Combined amphetamine sulfate and balladonna alkaloid therapy of the regression neuroses. *Psychosomatic Medicine*, 1944, 6, no. 2, 132-140.

TABLE Ia

The Effect of Repetition on Multiple Choice Test Scores

Method 1—A weight of 1 given to first poor answers;
second poor answers and alternates disregarded.

GROUP A	GROUP B
53 Subjects repeating test after an hour's interval	60 Subjects repeating test after a day's interval
No change..... 53%	No change..... 37%
1 change in the direction of a better record..... 19%	1 change in the direction of a better record..... 28%
1 change in the direction of a worse record..... 13%	1 change in the direction of a worse record..... 13%
2 changes in the direction of a better record..... 6%	2 changes in the direction of a better record..... 10%
2 changes in the direction of a worse record..... 8%	2 changes in the direction of a worse record..... 5%
More than 2 changes in the di- rection of a better record..... 2%	More than 2 changes in the di- rection of a better record..... 0%
More than 2 changes in the di- rection of a worse record..... 0%	More than 2 changes in the di- rection of a worse record..... 7%

TABLE 1b

Method 2—A weight of 1 given to first poor answers; .5 to second poor answers; alternates disregarded.

GROUP A	GROUP B
No change..... 30%	No change..... 28%
.5 change in the direction of a better record..... 11%	.5 change in the direction of a better record..... 8%
.5 change in the direction of a worse record..... 9%	.5 change in the direction of a worse record..... 8%
No change plus .5 change.... 50%	No change plus .5 change.... 44%
1 change in the direction of a better record..... 19%	1 change in the direction of a better record..... 23%
1 change in the direction of a worse record..... 17%	1 change in the direction of a worse record..... 7%
1.5 change in the direction of a better record..... 6%	1.5 change in the direction of a better record..... 2%
1.5 change in the direction of a worse record..... 0%	1.5 change in the direction of a worse record..... 2%
2 changes in the direction of a better record..... 2%	2 changes in the direction of a better record..... 10%
2 changes in the direction of a worse record..... 2%	2 changes in the direction of a worse record..... 5%
More than 2 changes in the direction of a better record..... 4%	More than 2 changes in the direction of a better record..... 2%
More than 2 changes in the direction of a worse record..... 0%	More than 2 changes in the direction of a worse record..... 5%

TABLE Ic

Method 3—A weight of 1 given to first poor answers; .5 to second poor answers; .5 to first and second alternates.

GROUP A		GROUP B	
No change.....	32%	No change.....	25%
.5 change in the direction of a better record.....	13%	.5 change in the direction of a better record.....	13%
.5 change in the direction of a worse record.....	11%	.5 change in the direction of a worse record.....	8%
	24%		21%
No change plus .5 change.....	56%	No change plus .5 change.....	46%
1 change in the direction of a better record.....	13%	1 change in the direction of a better record.....	18%
1 change in the direction of a worse record.....	15%	1 change in the direction of a worse record.....	8%
	28%		26%
1.5 change in the direction of a better record.....	8%	1.5 change in the direction of a better record.....	2%
1.5 change in the direction of a worse record.....	0%	1.5 change in the direction of a worse record.....	2%
	8%		4%
2 changes in the direction of a better record.....	2%	2 changes in the direction of a better record.....	10%
2 changes in the direction of a worse record.....	2%	2 changes in the direction of a worse record.....	7%
	4%		17%
More than 2 changes in the direction of a better record.....	4%	More than 2 changes in the direction of the better record.....	2%
More than 2 changes in the direction of a worse record.....	0%	More than 2 changes in the direction of a worse record.....	5%
	4%		7%

TABLE II

The Multiple Choice Test Scores Before and After Treatment with Combined Amphetamine Sulfate and Belladonna Alkaloid

(Taken from Jacobs)

CASE	BEFORE TREATMENT	AFTER TREATMENT
1	Not tested	3
2	5	1
3	8	0
4	2	0
5	8	0
6	6	0
7	7	1
8	2	1

SECTION V

The Multiple Choice Rorschach Test in Military Psychiatric Differentiation: The Use of Statistical Criteria*

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ENSIGN M. ERIK WRIGHT, H-V(S), USNR
BEATRICE A. WRIGHT, Ph.D.

Problems of Military Psychiatric Screening

THE SPECIAL demands of the military program have led psychiatrists and psychologists in the armed forces to place emphasis on the diagnostic and prognostic functions of the psychiatric interview. It is particularly important for group morale, group safety, economic and military reasons, that those individuals who will most probably fail to make an adequate adjustment to the military way of life be separated from the military services as early as possible. This means that a psychiatric evaluation as to probable future behavior must be made of individuals about whom relatively little is known.

If well staffed teams including psychiatrists, psychologists and social workers were able to make a study of each individual, it is quite likely that most future neuropsychiatric casualties would be screened out. Unfortunately, the trained personnel charged with the responsibilities of screening are very few in number, and the demands upon their judgment tremendous. The time available for each individual interview is to be counted in minutes rather than hours. Thus, any objective instrument which enables the military psychiatric worker to give more time to those men who may find difficulty in adjusting to military life by separating them from those who are likely to adjust adequately is worth serious study in a classification and screening program.

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Appreciation is expressed to Capt. Hook, (MC) USN., Commanding Officer of the hospital at which time this data was gathered, for his interest and cooperation in making this study possible.

Thanks are expressed to Lt. J. W. Lyons, (MC), USN., for his assistance in collecting many of the clinical summaries. The authors feel indebted to C. F. Ritcher, Phm2c, for his conscientious administration of the tests to both the patients and normals.

A supplementary screening test for this purpose must fulfill certain requirements: 1) Individuals with even a limited educational background should be able to comprehend the instructions, 2) elaborate apparatus should not be required, 3) the test should be administrable to large groups at the same time, 4) the test should not take more than half an hour of the recruit's time, 5) highly trained assistants should not be required to administer the test, 6) the immediate situation should have little effect on the results, and 7) the validity should be sufficiently high.

The Multiple Choice Test was developed with these considerations in mind, and the reports which have already appeared on it are sufficiently encouraging to warrant more intensive study. The research to be reported in these sections deals with some possible contributions of this test to the military psychiatric program.

Orientation of Study

Our initial purpose was to explore the validity of certain objective criteria in differentiating neuropsychiatric patients from normal individuals in order to determine the extent to which untrained clerical assignments can be used in military psychiatric screening and classification.

The procedure suggested by Harrower-Erickson was followed in all essential details. The slides of the Rorschach ink-blot pictures were projected in a darkened room for the normal subjects. A cleared space on the ward had to be used for the patients. The average size of a group tested was about 45. After the test blanks had been distributed, the printed directions were projected on the screen and a sample answer shown. The subjects were then told not to write anything on their papers until directed by the examiner. The picture was exposed for 30 seconds, after which an overhead light was turned on and the subjects given a minute to make their responses, the picture remaining exposed all the time.

Subjects

There were 731 patients in the experimental group. These were randomly selected from the new admissions to the psychiatric service over a three month period. A large proportion of the patients had long periods of overseas duty, some in severe combat areas. Many of these men had also sustained wounds, malaria, filariasis and other infectious diseases. Upon removal from the combat zone, many men showed clinically observable signs of recovery, although at the time of this study they were still hospitalized.

The control group was composed of men who were still in the recruit phase of their Navy experience. Few had had overseas duty, and the service history of most was under six months. A large proportion were assigned to duty they had not chosen. Many, in fact, actively resented their assignment. A sampling of opinion among those officers who have frequent contact with this group led to estimates ranging from 20% to 30% of this group as showing moderate to severe maladjustment. However, at the time of the study, this maladjustment had not reached a stage severe enough to warrant hospitalization. Unfortunately, the conditions were not suitable for the selection of a group which could be designated as "well-adjusted" without qualification. However, it was felt that in spite of the degree of overlap, this group was substantially more normal than the patient group, and that a study of the performance of the two groups might reveal some differentiating statistical criteria which could later be validated under optimal conditions.

Age and Education

In general the patients included an older group of men than did the normals, the average age of the patients being 27 years as contrasted with a mean of 20 years for the control group.

The educational achievements (based on the individual's own report of last grade completed) of the two groups also showed some differences. The majority (62%) of the patient group claimed to have broken off their education before completing high school; whereas, most of the normal group (79%) finished high school or went even further with their education.

Part of the explanation for both the lower age and higher educational levels among the normals may be found in the selective factors which placed them in the particular work which they were doing. Moreover, the patients, as a group, had been in the Navy for a longer period of time than the normal group.

Test Score as a Criterion

By adding the scoring values given to the first choice for each blot, it is possible to get a total score which reflects something of the qualitative character of the performance.* Unfortunately, low scores do not necessarily mean good adjustment. For example, a score of 10 (all M responses), the lowest obtainable, is as indicative of a maladjustment as one of 80 or 90, although the type of psychological difficulty thus

* Throughout the discussion to follow only the first choices were used, since many of the subjects revealed that they did not understand the directions to permit further choices (a difficulty which was corrected in later administrations by the use of the sample slide).

described may be different. The former would be more often associated with an introversive, obsessive, emotionally repressed personality structure, whereas a score of 80 or 90 would be found in persons with outgoing, emotionally labile, explosive, disorganized patterns of behavior. Thus the total score is a complex score which was investigated for its possible contributions to a set of screening criteria.

The distribution of the total scores on the Multiple Choice Test by the patients and normals is shown in Table I.

TABLE I
Distribution of Total Scores on the Multiple Choice Rorschach Test by Patients and Normals

SCORE	PATIENTS		NORMALS	
	N	%	N	%
18- 23	18	3	13	4
24- 29	59	8	55	15
30- 35	83	11	59	16
36- 41	114	16	69	19
42- 47	121	17	62	17
48- 53	108	15	42	11
54- 59	82	11	28	8
60- 65	54	7	18	5
66- 71	40	6	16	4
72- 77	15	2	4	1
78- 83	16	2	3	1
84- 89	6	1	—	—
90- 95	9	1	—	—
96-100	6	1	—	—
	731		369	

The patients showed a wider distribution of scores, especially on the high or "poorly adjusted" end of the scale. This is consistent with the objective fact that these patients are more seriously disturbed and should show more extreme deviation in the direction of maladjustment. When the central tendencies of the groups are compared we find that the patient group has a mean total score of 48.3; whereas, the normal group has a mean total score of 42.0. This difference yielded a critical ratio of 7.2. This means that there is little doubt that the two groups show a statistically significant difference in their reaction to the test (as measured by the total score). However, it is more significant to note that this statistical difference is of little value in screening the given individual on the basis of total score because of the large overlap of the two groups.

On the basis of previous information as to the probable degree of maladjustment existing among the normals, it seems safe to infer that a total score of 54 or more is very likely to be associated with moderate to severe maladjustments. Such a dividing line would focus attention on about 31% of the patient group and about 19% of the normals. Unfortunately there is no way of validating whether the 19% of the normals so designated would be the ones who had been judged to be adjusting with great difficulty by their superior officers. However, subsequent experience with this test at an embarkation center has strongly validated this inference.

What, then, can be said about the use of the total score in screening? It is not a very sharp criterion for pruning away the borderline group of psychiatric problems and it would, of course, be far more satisfying if a larger proportion of potential psychiatric casualties could be screened out by their total score. Nonetheless, the positive contributions of this criterion should not be overlooked. A reasonably positive identification of 30% of the psychiatric unfits represents a considerable saving of available military psychiatric manpower, as well as assisting in the evaluation of the individual thus brought to the fore.

Number of Negatives as a Criterion

Harrower-Erickson used the number of negative responses to differentiate between well-adjusted and maladjusted individuals rather than the total score. She found that about 75% of various groups of patients with neuropsychiatric diagnosis gave 4 or more than 4 negative responses, while only 6% to 16% of the normals were screened out by this technique. In Table II we have grouped the number of negative and positive answers given by the patients and the normals in our study.

These results are less differentiating between the normal and patient groups than those reported by Harrower-Erickson as holding for

TABLE II
Frequency of Negative Responses in the Records of Patients and Normals

NUMBER OF NEGATIVES	PATIENTS		NORMALS	
	N	%	N	%
0, 1, or 2	224	31	176	48
3	114	16	66	18
4	124	17	41	11
5 or more	393	37	127	23

superior normals and institutionalized psychotics. Although the mean number of negative responses for the patients, 3.93, is significantly greater than that for normals, 2.96, there seems to be far too much overlap in the distribution for the two groups to use this as the sole screening criterion. If a more rigorous criterion of 5 negative responses is taken, we find that it selects 37% of our patients and 23% of our normals. In the light of our previous discussion about the normals, this criterion (5 or more poor answers) seems to be more fruitful as an indication of severe maladjustment for the groups included in this study. Clinical experience with the test has repeatedly demonstrated to the authors that an individual with 5 negative responses shows marked behavior disturbance. This difficulty is almost always of a sufficient degree to prove disabling for military service.

The Individual Responses in Interpretative Diagnosis

Thus far the discussion has been confined primarily to quantitative expressions of the individual's performance on the Multiple Choice Test, neglecting the important contribution which a trained Rorschach worker could make towards evaluating the personality by an interpretation of the individual responses. We will now deal with some differences between patients and normals on specific responses, and attempt an interpretation of these differences in terms of the Rorschach factors involved.

According to the underlying principles of choosing the responses which Harrower-Erickson followed, a number 1 stands for a human movement response (the M) on each card except the eighth card where no M was available and a form-color response substituted. Number 2 was the designation of the popular, and very often an animal movement (FM) response. Good form-color responses (FC), straight regard for form, and moderate use of shading were scored 3 or 4. The scoring of 5 was reserved for responses which were found in normal records but tended to be somewhat unusual. Small details, white space usage, and other borderline projections which had passable form quality were given this rating. Number 6 was used to indicate anatomical answers, generally with poor form. The last four scorings all suggested progressive lowering of the intellectual control and the rising dominance of disturbed emotionality. The number 7 responses in many cases reflect the anxiety implied in Fk and K responses. Numbers 8 and 9 represent various types of disturbed answers, including factors suggesting anxiety, phobic reactions, inanimate movement, and negative effect. The number 10 was indicative of either a failure or a rejection of the given card.

On the first slide the normals showed a significantly higher proportion of responses to number 5, "a pelvis," than did the patients (34% vs. 18%).* The result may be, in part, conditioned by the medical orientation of the normal group. Inasmuch as the use of one's vocational background as a source of projection is frequently indicative of evasiveness, fear of exposing the self, and insecurity, this choice may imply a more cautious, suspicious, and conservative approach to the test by the normals than by the patients. That is, the patients more readily became involved in the task; whereas, the normals attempted to dissociate themselves from deep involvement. The difference may also imply a tendency for the normals to be somewhat more concerned over their own body functions or self-image. Such attitudes are rather characteristic of adolescent groups, and the data on age levels revealed that more of the normals than the patients fell in this age group.

Slides II and III revealed no significant differences between normals and patients on the individual choices. The fourth slide, however, showed several marked differences between the two groups. Only 5% of the normals chose response number 2, "an animal skin" whereas 34% of the patients selected this answer. Significantly more of the normals chose the third response, "a big gorilla" (23% vs. 11%), and the fourth response "a pair of boots" (48% vs. 21%). Response 2 emphasizes the factor of surface texture and shading (Fc) more than the form considerations (F). This Fc determinant is clinically related to a contactual-nonaesthetic reactivity to environmental changes. Responses three and four have their primary determinants, animal movement (FM) and form (F). The differences may be interpreted to mean that the patient group tends to show a greater sensitivity to environmental changes (Fc) than the normals, especially those having to do with social relationships. On the other hand the normal group tends to present a more vigorous expression of its inner drives (FM), as well as to demonstrate more control on the intellectual level (F). There is also the suggestion that the normal group may tend to show more adolescent behavior, as the lower social sensitivity and the more unrepressed inner drives are frequent expressions of this transition period.

The fifth slide probably presents the easiest of all the projections, especially response 2, "A bat or butterfly." The normal group shows a

* Whenever a difference is cited, it has been statistically evaluated and found to have a critical ratio (C.R.) of at least 2.45. Exceptions to this will be especially noted in the discussion.

significantly higher frequency for this choice than the patients (92% vs. 84%). In view of the fact that both groups choose this response so frequently, failure to project this popular response, or the production of a negative response on Slide V is especially significant of a loss of intellectual control and, possibly, of a decrease of the sense of personal integrity.

Both groups show a significant rise in the proportion of failure responses on the sixth slide. This blot offered the greatest difficulty for concept formation of any blot in the series. The physical characteristics of the blot are sharp and well defined with many possibilities for either whole or detail projections. It seems reasonable to infer that much of the failure or rejection of the card lies not in the form characteristics of the blot, but in the emotional disturbance it tends to arouse. When sufficient time is given, most subjects achieve some sort of response. The time limit and the emotional blocking may account for the high failure. The patient group showed a higher incidence of failure on this card than did the normal group, (20% vs. 14%). This card has often been referred to as the "sex" card. This reference tends to be corroborated by the fact that the choice "sex organs" was the most frequently chosen response by both the patients and the normals.

On Slide VII, the normal group chose response 1, "two women talking," significantly more frequently than the patients (36% vs. 23%). The patients, on the other hand, had a higher frequency for the choice, "mud and water" (24% vs. 13%), and for the failure response, than did the normal group. The normals thus tended to show more human movement, implying a readier identification with people as well as a more stable inner life than that of the patients. They also showed less of the rejection and dysphoric content, with its suggestion of anxiety and negative effect, than the patient group. The use of the shading factors (Fc and cF) in this card again suggests that the patient group tended to be relatively more sensitive to the social and physical environment, a trend previously noted on Slide IV. There is a strong coloring of negative affect associated with this social awareness, implying either inadequacy in such relations or fear of being involved.

The eighth slide re-introduces the element of color which in the Rorschach frame of reference has come to mean an added emotional stimulus. The new stimulating factor seemed to affect the patient group more than it did the normals, for the former had a significantly higher proportion of negative responses than the normals (56% vs. 41%). The same unfavorable balance persisted on all three colored cards, with the patients showing more negative responses. There are

several indications that the normals are more mature and adjusted in the emotional sphere. This is revealed by the incidence of form-color responses, the lower frequency of anxiety and failure responses, and the tendency to project integrated wholes. For example, on Slide X, the patients tend to avoid the color response by choosing "spiders, caterpillars, and insects" (47% vs. 28%); whereas, the normals meet the color issue squarely with the response "a Chinese print" (50% vs. 4%). In these two responses we see the expression of the inner drives (possible FM) with the suggestion of emotional immaturity and of unintegrated tendencies within the personality structure and anavoidance of the use of the color on the part of the patients. The failure to use color tends to corroborate the influence of a fear of emotional involvement with people on new situations, a kind of neurotic inadequacy in social situations.

There were several other differences in which the criterion of statistical significance was satisfied, but where the difference did not seem large enough to warrant a psychological differentiation. The purpose of the above discussion was to show how the differences between the two groups on specific responses has more than statistical significance when the Rorschach factors implied in the response are analyzed. It further suggests that a refined system of weighting the differences on specific items found between the two groups when added to the criteria of total score and number of negative responses, may provide a more adequate set of objective criteria for screening potential psychiatric casualties.

Summary and Conclusions

The Multiple Choice Test was administered to a group of 731 patients on the neuropsychiatric service of a Naval Hospital and to 369 "normals" who were living under comparable conditions. The following are the main findings:

1. A comparison of the patients and the normals showed:
 - a. A statistically significant lower average total score for the normals than for the patients. (42.0 vs. 48.3)
 - b. Significantly fewer negative responses, on the average, given by the normals than the patients. (2.96 vs. 3.93) Thus, on the basis of these two criteria, the normal group showed more adequate adjustment than the patient group.

2. For purposes of screening out the potential psychiatric casualty, the use of four negative responses does not provide a sharp enough

differentiation to warrant its usage by untrained personnel. Use of this criterion alone would have screened only a third of the neuropsychiatric casualties, with the possibility of some false positives having been included.

3. Analysis of the differences between the patient and the normal group on the individual responses suggests a number of criteria which might be included in setting up a weighted scoring system that might be more effective in screening out the probable psychiatric casualty.

4. The application of Rorschach principles of interpretation to the response differences between the normals and patients indicates wide possibilities of the Multiple Choice Test for screening uses.

5. It seems probable that as the Multiple Choice Test is improved and more adequate objective criteria formulated, this instrument will become one of the most valuable techniques for objectively isolating the probable psychiatric casualty. This conclusion is based on clinical experience with a modified form of the original test as well as the implications of series of studies.

SECTION VI

The Multiple Choice Rorschach Test in Military Psychiatric Differentiation: The Validity and Reliability of Interpretative Analysis

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THE PRESENT study is concerned with evaluating the Multiple Choice Test as an aid in clinical diagnosis. To this end the responses on the test were used in two ways: First, a description of the subject's personality was inferred from the Rorschach factors implicit in the Multiple Choice responses, utilizing principles of interpretation found to be valid with the individual Rorschach. Experience with the Multiple Choice Test led to various modifications in the application of these principles. Secondly, from this personality structure, a judgment as to degree of maladjustment was made.

Subjects

The subjects were 200 men selected at random from the groups of neuropsychiatric patients. The men ranged in age from 17 to 49 years with an average of 26 years. Fifty percent were below the age of 24. The average education was the tenth grade.

Problems of Validation

Differential diagnosis: Evaluations of these 200 subjects were written by various psychiatrists in the normal hospital procedure of case treatment. Each of the 200 Multiple Choice records was analyzed independently and a blind description of the personality made.

In view of various considerations not dealt with here, it was decided to express the agreement between the clinical and Rorschach psychiatric findings in terms of four degrees as follows:

1. *Complete agreement:* This rating was given to those cases where the personality structure of the individual revealed by the Rorschach resembled in its main features the picture represented in the clinical evaluation. Case No. 185 (age 34) serves as an example:

Clinical Evaluation

Had "nervous breakdown" for 6 months in 1939 in which was nervous, depressed, could not sleep, neglected his business which failed. Psychiatric findings are: listless, slightly depressed, tense, hypochondriacal, and complains of headache, palpitation and is chronically tired. Insight and judgment superficial. He has shown no improvement.

Diagnosis: Psychoneurosis, neurasthenia.

Evaluation from Multiple Choice Test

Psychoneurosis with anxiety and tension state. Propensity for psychosomatic symptoms and hypochondriacal preoccupation. Tends to react strongly to emotional stimuli, but is unable to integrate and sublimate. Tends to withdraw and rationalize without insight.

Diagnosis: Maladjusted. Psychoneuroses, anxiety, and hypochondriasis.

This individual is shown to be first, tense and depressed; secondly, hypochondriacal; and thirdly, poor in judgment and insight. Each of these characteristics is revealed in the Multiple Choice record.*

2. *Essential agreement*: This rating was given to those cases in which the clinical and Multiple Choice findings agreed in the most significant characteristics of the personality but where some less pronounced aspects of the personality revealed in only one of the two evaluations tended to modify the total personality impression. Case No. 37 (age 18) is an example:

Clinical Evaluation

Always shy, sensitive, nervous, seclusive and subject to depressions. Raised on a farm and came from a broken home. Psychiatric findings show a schizoid personality requiring close supervision for two weeks because of confusion and disorientation, hearing bells and his mother's voice calling him at night. Believed reached former emotional state of seclusiveness, fatigability moderate depression and loss of interest in his work.

Diagnosis: Constitutional psychopath, schizoid personality.

Evaluation from Multiple Choice Test

Evidence of withdrawal from the environment with bodily overconcern producing hypochondriasis. Possible schizoid trends.

Diagnosis: Probable maladjustment. Question of schizophrenic trends.

* There are some elaborations which appear in only one of the summaries. For example, Multiple Choice findings state that the individual tends to react strongly to emotional stimuli. This, however, does not modify the total personality impression revealed by the clinical findings. Consequently a rating of complete agreement is appropriate.

The main characteristic of this individual, his schizoid personality, is also revealed in the Multiple Choice record. However, the Multiple Choice summary more moderately portrays this factor and introduces a hypochondriacal feature. Because of this a rating of essential agreement rather than complete agreement was made.

3. *Partial agreement:* This rating was given to cases in which the Multiple Choice record either revealed only part of the important characteristics of the personality or contributed additional features which rather markedly altered the personality picture. Case No. 137 (age 34) may serve as an example:

Clinical Evaluation

Enuretic until 15. Had nightmares and occasional bouts of somnambulism as a child. No symptoms referable to present trouble prior to enlistment. At this hospital limps continually and complains of back pain and headache, has numerous dizzy spells and becomes startled quite easily. Has a stocking anaesthesia in legs. Complaints are considered hysterical conversions.

Diagnosis: Psychoneurosis, hysteria.

Evaluation from Multiple Choice Test

Probably withdrawn individual with difficulty in making adjustment to the environment. Underlying emotional instability is probably covered up. There is a breakdown indicating a possible schizoid trend.

Diagnosis: Maladjusted. Probably schizoid personality.

The clinical summary reveals an individual with a history of enuresis and somnambulism who at the present time is easily startled. These findings are reflected in the Multiple Choice description of the individual as emotionally unstable and having difficulty in adjusting to the environment. The second important characteristic of this patient, his hysterical symptoms, does not appear in the Multiple Choice record. Instead the Multiple Choice record stresses more a schizoid type of personality. It is for this reason that a rating of partial agreement was made.

4. *Disagreement:* Where the clinical and Multiple Choice summaries indicated two different personality structures having no important features in common, a judgment of disagreement was made. Case No. 83 (age 18) is an example.

Clinical Evaluation

For many years had recurrent precordial pains similar to those of which he now complains. In South Pacific

Evaluation from Multiple Choice Test

No maladjustment is evident.

Clinical Evaluation (continued)

but no combat duty. Psychiatric examination shows immature in intellect, judgment, and general behavior. Emotional reaction is unstable, and lack of inhibition has made him a disciplinary problem. No psychosis is present. His symptoms are considered the result of an inadequate individual who finds himself in a difficult situation from which no escape is evident.

Diagnosis: Psychoneurosis, situational.

The disagreement between these two evaluations is clearly evident, the clinical picture revealing an unstable inadequate personality whereas the Multiple Choice Test gives no evidence of maladjustment.

*Evaluation from Multiple Choice Test (continued)**Degree of Maladjustment*

In addition to examining the Multiple Choice record for a differential diagnosis, it was possible to judge the resulting personality picture from the point of view of *degree of maladjustment*. In order to validate such ratings, they could be compared with similar ratings of the clinical findings. There was some question as to whether degree of maladjustment should be expressed in terms of adjustment to military life or general personality organization. After some consideration, it was seen that these two orientations would not conflict but would supplement each other if the clinical and Multiple Choice evaluations were rated according to the following criteria:

1. *Very little or no maladjustment*. This rating was reserved for Multiple Choice and clinical personality descriptions in which, at most, only slight maladjustment was evident. Such cases ought to be good risks for military service.

2. *Mild to moderate maladjustment*. This rating was given to those personality descriptions which indicated a definite maladjustment but where the difficulty did not lead to a general disablement of the personality. Such individuals could be expected to make a fairly satisfactory adjustment in ordinary situations, but would be questionable as far as military service was concerned. Here the differential diagnosis and further psychiatric investigation could help decide the disposition of the case to military or civilian life.

3. *Severe maladjustment*. This rating was given to personality descriptions which revealed a disabling personality defect. These cases showed marked intellectual and emotional disturbances which would make them unfit for military service.

These judgments of agreement between the clinical and Multiple Choice evaluations and between degree of maladjustment as evidenced clinically and by the test, were made by three raters independently.

*Differential Diagnosis Can Be Made from
Multiple Choice Records*

The essential data bearing on this point are shown in Table I.

When the judgments of the three raters are combined, A, B, and C, 90% of the cases show at least partial agreement between the clinical evaluation of the individual and his Multiple Choice interpretation.

TABLE I
Agreement Between Clinical and Multiple Choice Evaluations

DEGREE OF AGREEMENT	PERCENTAGE OF CASES FOR RATERS			
	A	B	C	A+B+C
Complete	33	33	48	38
Essential	35	27	25	30
Partial	21	28	18	22
Disagreement	11	11	8	10

Almost 70% show essential or complete agreement and only 10% show disagreement. Chance alone would place twenty-five percent of the cases in the disagreement category.*

The extent of agreement between the clinical and Multiple Choice evaluations is about the same for each of the three raters. The reliability, however, is better expressed in terms of agreement between the raters for individual cases as is shown in Table II.

When pairs of raters are compared with each other, they show "complete agreement" in more than half the cases as to the correspondence between the clinical and Multiple Choice evaluations, i.e., both raters made judgments of complete, essential, or partial agreement or disagreement. About 90% of the cases show either complete agreement or agreement within one step, and less than one-tenth of the cases show a disagreement between the raters of more than one step.

* The question may be raised as to whether such high agreement would be obtained in a population which included a larger proportion of normals. It may be, for example, that many normals on the Multiple Choice would give abnormal responses so that while it is easy to detect the truly pathological, one would also include many so-called false positives. Though the data as yet have not been statistically evaluated, we venture to predict, on the basis of further use with the test, that the validity of the Multiple Choice when applied to normals would not be impaired.

TABLE II

Agreement of Raters as to Correspondence Between Clinical and Multiple Choice Evaluations

JUDGMENTS MADE BY RATERS	DEGREE OF AGREEMENT BETWEEN RATERS	PERCENTAGE OF CASES FOR RATERS		
		A+B	A+C	B+C
Complete—Complete Essential—Essential Partial—Partial Disagree—Disagree	Complete agreement	52	55	55
Complete—Essential Essential—Partial Partial—Disagree	Agreement within one step	46	39	36
Complete—Partial Essential—Disagree	Agreement within two steps	3	7	9
Complete—Disagree	Agreement within three steps	1	1	0

Degree of Maladjustment Revealed by Test

Once the clinical and Multiple Choice evaluations were rated for degree of maladjustment, it was very simple to determine the agreement between such judgments. Complete agreement refers to cases in which the clinical and Multiple Choice evaluations were given the same rating of degree of maladjustment; partial agreement to cases where a difference of one degree on the ratings was obtained (e.g., severe maladjustment on Multiple Choice interpretation and moderate maladjustment on clinical), and disagreement to cases where one of the summaries was rated as severe and the other as little or no maladjustment. These results are summarized in Table III.

It is seen that in about seventy percent of the cases the Multiple Choice Test is able to reflect very accurately the extent of the in-

TABLE III

Agreement Between Clinical and Multiple Choice Evaluations as to Degree of Maladjustment

AGREEMENT	PERCENTAGE OF CASES FOR RATERS			
	A	B	C	A+B+C
Complete agreement	67	72	68	70
Partial agreement	29	24	26	27
Disagreement	5	5	7	5

dividual's maladjustment. In only 5% of the cases does the Multiple Choice picture present an individual who differs markedly as to degree of maladjustment from the clinical picture. The same question regarding the ability of the Multiple Choice Test to single out normals with respect to degree of maladjustment holds here. Preliminary evidence of current research is pointing to an affirmative answer to this question.

Tables I and II may be compared for an appraisal of the relative validity of the two uses of the Multiple Choice evaluations. As one would expect, judgments of degree of maladjustment as revealed in the Multiple Choice picture may be made with somewhat higher validity than judgments as to differential diagnosis. In the former instance, 5% of the cases disagree with the clinical evaluation, whereas in the latter, 10% showed disagreement.

The reliability of the ratings is shown in Table IV:

TABLE IV
Agreement Between Raters as to Judgments of Degree of Maladjustment

DEGREE OF AGREEMENT BETWEEN RATERS*	MULTIPLE CHOICE EVALUATION			CLINICAL EVALUATION		
	A+B	A+C	B+C	A+B	A+C	B+C
Complete agreement	86	79	81	84	73	82
Partial agreement	15	22	19	16	26	18
Disagreement	0	0	0	1	1	1

* The classifications of complete agreement, partial agreement and disagreement have the same connotations as described for the data in Table III. The reliability of the judgments for both the clinical and Rorschach evaluations is shown to be very high. In only 1% of the cases is there disagreement between the raters as to degree of maladjustment expressed in the clinical evaluation. The slight tendency for the Rorschach ratings to show a higher reliability is due to the occasional statements of degree of maladjustment which the individual making the blind analysis incorporated into the report.

Application of the Multiple Choice Test

The results of this study clearly indicate that the application of Rorschach principles of interpretation to the Multiple Choice Test permits a relatively accurate description of the personality as well as of the degree of maladjustment. When one considers the economy of time involved in administering and analyzing the test, the results are truly striking. This feature, combined with the validity of the test, makes the Multiple Choice Test particularly useful in a wide variety of fields.

In the military situation the test can be used to great advantage at the induction centers for screening purposes. Neuropsychiatric departments in service hospitals can also develop the use of this test in several ways. A brief summary of the personality structure of each patient at the time of admission may be of considerable help in arriving at a more accurate diagnostic description of the case in a shorter period of time. This preliminary evaluation can direct the observation of the therapist to at least some of the significant difficulties of the patient. Experience with the test has shown that it may be useful in estimating the relative amenability or resistance of the patient to psychotherapeutic treatment. It is quite probable that the test can also be used as an objective evaluation of therapeutic progress.

Personnel selection in the field of industry offers many opportunities for the application of this test. Where a position requires an aggressive personality, or an introversive personality, or one with high emotional stability, etc., the data from the Multiple Choice Test could be of considerable help in the selection.

Finally, the test could very usefully be used for research purposes, as in problems of psychiatric trends with prolongation of war, or personality features of those engaged in volunteer services, and so on.

It is appropriate here to stress two important cautions. First, the results and conclusions presented above are not to be construed that the test can in any way be regarded as a substitute for more intensive clinical evaluation. Those individuals who are selected by the test as having certain characteristics can in each case be interviewed and followed through for final appraisal. The second important point is that the use of the Multiple Choice Test for differential diagnosis presupposes an extensive training and experience in the Rorschach method and in clinical psychology. Since there are only a limited number of individuals having this training, the possibilities of this new method are thus restricted. This points to the serious need for providing more training facilities for psychiatrists, psychologists, social workers, and others who are concerned with diagnostic and therapeutic efforts.

Summary and Conclusions

The Multiple Choice Test records of 200 patients (94% of whom were suffering from some neuropsychiatric difficulty) were analyzed "blind" in order to evaluate the validity of this test for differential diagnosis. The main results may be summarized as follows:

1. Ninety percent of the cases show at least partial agreement be-

tween clinical evaluation of the individual and the interpretation from his Multiple Choice Test. Almost 70% show essential or complete agreement and only 10% show disagreement.

2. The Multiple Choice and clinical evaluations were also rated for degree of maladjustment. This use of the Multiple Choice Test even more accurately classifies the individual, only 5% of the cases showing disagreement between the clinical and Multiple Choice pictures. Complete agreement was obtained in 70% of the cases.

3. These results have led to the conclusion that the Multiple Choice Test can be used by personnel trained in the Rorschach method for a wide variety of purposes.

SECTION VII

The Multiple Choice Rorschach Test in Military Psychiatric Differentiation: Application of Interpretative Principles in Differential Diagnosis

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OUR STATISTICAL analysis in Section V demonstrated that the quantitative criteria of total score and number of "bad" answers in the Multiple Choice Rorschach Test are of only limited value in military psychiatric screening. Although we are not as pessimistic as Wittson, Hunt and Older (9) we agree that in the present development of the test, these criteria are not sufficiently valid to warrant its usage by untrained personnel. The degree of overlap in our statistics indicated that such usage would segregate more than fifty percent of the prospective neuropsychiatric casualties, but that there would be also included a large number of false positives who adjust satisfactorily despite evidences of conflicts on a deeper level. Therefore, it would seem that the test is likely to be even too sensitive by placing these men on an equal footing with those whose maladjustment precludes adaptability to the military milieu.

Because of this defect in operation of the test, a need was felt for exploration in the field of differential diagnosis to discern whether or not a reasonably adequate personality description and diagnosis could be inferred from interpretation of the response patterns given by different psychiatric groups on the test. As there was no precedent for such procedure, the blind analyses were made from the interpretative principles of the individual Rorschach combined with subjective clinical hunches. Section VI contains a resume of the results of the blind analyses done on this basis. These results, in our opinion, are imposing enough to warrant optimism that differential diagnostic de-

* This article has been released for publication by the Division of Publication of the Bureau of Medicine and Surgery of the United States Navy. The opinions and views set forth in this article are those of the writers and are not to be considered as reflecting the policies of the Navy Department.

scriptions can be made by trained Rorschach personnel utilizing the Multiple Choice Test. Although this development does not enable the use of the test by untrained personnel, it does constitute an important instrument with which any trained worker can increase manifold the number of personality diagnoses possible in a limited period. As such, it offers at least a partial answer to the need for large scale evaluations today.

In this section we shall attempt to elucidate the methodology by which our interpretations and blind analyses were made. In the discussion of the psychoneuroses, a brief summary of the interpretative principles involved in the individual Rorschach will be outlined. Then, an analysis of the application of these principles to the Multiple Choice Test will be stated. The records from representative cases in each diagnostic category of the psychoneuroses will be presented along with a detailed step by step analysis of the responses to demonstrate how the interpretations and diagnoses are performed.

Other diagnostic groups will be illustrated by response records and brief summaries of the interpretations and predictions. A comparison of these records will demonstrate well-marked differences in the response patterns of the various diagnostic groups. Unfortunately, the present material does not include enough records from major functional psychoses to warrant their inclusion in this paper. However, subsequent clinical experience by one of us confirms the impression that a majority of this group can be segregated by the test. This is particularly true of the schizophrenic psychoses, but experience with the manic-depressive group is too limited for generalization.

The Psychoneuroses

There is little written concerning the differentiation of the various diagnostic sub-groups of the psychoneuroses by means of the individual Rorschach test. However, the different descriptive manifestations such as anxiety, depression, compulsiveness, obsessional rumination, and tendencies toward psychosomatic organ dysfunction can be discerned and evaluated in terms of the personality as a whole.

The psychoneurotic states, in general, tend to show a limited number of responses on the individual Rorschach, usually less than 25 (2). There are disturbances on the "complex stimulating" cards (blots eliciting responses particularly relevant to emotional complexes), as Cards IV, VI, VII, and the colored cards, II, VIII, and IX. In the latter group, "color shock" may be manifested by rejection, delay, and deviation in form and content. Animal and animal-derived responses

usually exceed human projections, this being reflected in the preponderance of animal movement over human movement. A high percentage of pure form (F%) and animal answers (A%) demonstrate a rigidity of personality in which there is a lack of free emotional expression. In other words the whole personality function is damaged by an excessive super-ego and ego control. The appearance of one of the "complex" cards may produce so much disturbance that the card is rejected entirely. The reaction to color is inhibited or evaded to a great extent, but those reactions which break through demonstrate a poor ability to integrate social and adaptive control in emotional relationships with the environment. This is evidenced by the over-weighting of pure color and color-form responses over those in which form is well integrated with color. Free-floating anxiety (6) is often indicated by the predilection for shading responses, particularly where the shading is not utilized as part of a surface object. Dysphoric use of achromatic color along with inanimate movement will often point toward anxious and depressed states. The nature of the content also points toward areas of the body of particular interest to the subject, especially when this content is of the anatomical variety.

Psychoneurosis, Hysteria, and Hysterical Personalities

In the individual Rorschach, hysterics and hysterical personalities generally follow the above principles in their reactions to the ink-blots. However, there are some fairly specific findings in this sub-group which are important enough for special attention. The intellectual approach is usually marked by an overemphasis of easy and undifferentiated whole responses, with some attention to the large details and infrequent reaction to small or rare details. This indicates a personality in which the environment is viewed from a superficial standpoint rather than subjected to a careful analysis. That this is symptomatic of the immaturity of the hysteric is suggested by the similarity of the approach to that of six year old normal children (4), whereas eight year old children begin to be responsive to details, a trend which increases into the adolescent period. Intellectual integrity is maintained, however, as indicated by the appearance of popular responses, particularly on the non-complex cards, and by general coherence throughout the test.

The hysteric is not as likely to reject cards as some of the other diagnostic groups; but, if this should occur, it is limited to the "complex" cards where disturbance has been stimulated. The lack of human movement suggests that adequate identifications with parental figures have been impossible, producing an experiential level of immaturity

conflicting with the demands of an adult environment. This is further emphasized by the preponderance of animal movement which suggests that the instinctive drives (6) are incompletely repressed, but are not acceptable because of their infantile and immature character. The accompanying sexual immaturity is productive of strong conflict and confusion of sensual and contactual relationships to the environment. This may be especially shown in the disturbed reactions to the sixth and seventh cards.

Emotional reactivity to the environment is strongly egocentric and immature with impulsive emotionality exceeding the intellectually controlled reactions of the more normal personality. This is evidenced by the preponderance of color-form responses over the more intellectualized form-color choices. Because of the ease of emotional reactivity, in which the expressions are behaviorally on the infantile level, and because of the ease of symptom-formation, very little anxiety is experienced in the more purely hysterical cases. Thus the projection of anxiety responses, such as inanimate movement (m), diffuse shading (K), and dimensional shading (k) (6), is not likely to occur. The lack of self-evaluation and capacity for insight is also suggested by the infrequency of perspective responses (FK). Because of the passive-dependent nature of the hysterical personality, all movement is likely to be of the passive "bowing" quality rather than dynamic forces "pulling," "fighting," "exploding," or other kinaesthetic responses of aggression in an outward sense.

In the Multiple Choice Test, only a brief sampling of the subject's total behavior to the test is possible as compared with the individual test. However, the hysterical personality, with the type of reactivity described above, is likely to produce a fairly recognizable pattern in the Multiple Choice Test. For instance, the first card is likely to be responded to with a popular, easy whole response, more likely animal than human, such as "a bat." Occasionally other "good" whole responses are utilized, such as "an army or navy emblem" or a "pelvis." In line with the limited number of responses, the hysteric is not likely to bother with second and third choices on any of the blots. Furthermore, in accordance with the intactness of intellectual integrity, the first card is not likely to produce a "bad" response. In view of the lack of discriminatory powers in dealing with the environment, responses to the small detail, "pincers of a crab" is not expected. In discussing this possible choice, it might also be said that the hysteric lacks the compulsiveness, deep-seated anxiety and constriction of personality that goes along with undue attention to small details.

The second card, to the contrary, is productive of profound emotional stimulation. The patient may either reject the card or respond in a poorly integrated manner. In the Multiple Choice Test, we do not have the element of hesitation and delay as an indication of "color shock" to help us.* However, the state of confusion will often be revealed by the choice of one of the bad responses, particularly one in which an undifferentiated reaction to color is a factor. Frequently, the hysteric will be able to recover and choose one of the animal responses, but for reasons stated before, seldom accepts the human projection, "two clowns."

On the third card there is a tendency toward recovery, the best chance of producing a human response, occurring here, although the percentage of hysterics doing so is less than any group except the convulsive states. The inadequacy in human identifications and lack of maturity of drives often lead to the choice of an animal response, "two birds," rather than "two men," the object for the projections being essentially identical. In keeping with intellectual integrity, there is little tendency to choose one of the grossly pathological responses on this card.

The fourth and fifth blots are likely to stimulate popular responses which are animal or animal-derived. In the fourth card, the normal group leaned heavily toward the response, "a pair of boots," but this did not hold true for the hysterical group whose choice was predominantly an "animal skin." The choice of a strongly pathological response on either of these blots is evidence against a purely hysterical condition.

The recurrence of acute disturbance on the sixth card is evidenced by the frequency of "bad" answers. The sexual and sensual stimulation is likely to produce an anatomical response, but other bad responses occur frequently. Occasionally a more non-committal response is given such as "a fur rug" or "a turtle." Continuation of the disturbance is shown by frequent "bad" responses on the seventh card such as "dirty ice and snow" or "smoke and clouds" rather than anatomical projections. This indicates conflict in contactual relationships with the environment. A limited percentage is able to accept the feminine figures, "two women talking" for one of the rare human movement responses.

The eighth card again introduces color which is reacted to in either an undifferentiated fashion with the color-naming response, "pink, blue, and orange," the color-predominant response, "flowers and

* This is much less true of the amplified version. (See Sections VIII and X.)

leaves" or else evaded with retreat to the animal movement response, "two animals." The same statement holds for Cards IX and X where similar responses are given. It is interesting that hysterics are not particularly prone to project anatomical responses into the last three cards, this being more frequent in convulsive states and mixed psychoneurotics.

An example of the above analysis is shown by Case #309 who gave the following responses:

Card	I	"A bat"
Card	II	"Black and red"
Card	III	"Two men"
Card	IV	"An animal skin"
Card	V	"A bat or butterfly"
Card	VI	"Nothing at all"
Card	VII	"Dirty ice and snow"
Card	VIII	"Pink, blue, and orange"
Card	IX	"Red, green and orange"
Card	X	"A flower garden or gay tropical fish"

In this record is seen the intellectual factors pointed out in the general analysis. Briefly, the intellectual approach is without drive, in that there is a preponderance of easy, undifferentiated whole responses with no attempt to analyze or carefully to discriminate the blots either in parts or as a whole. Not a single detail response is chosen. The subject does not take the trouble to respond more than once to each blot, nor does he demonstrate any originality by writing in alternative responses. That he exhibits intellectual integrity is suggested by the fact that there are no failures or bad responses in the non-complex cards. Only one human movement response appears, there being three animal or animal-derived choices. Emotional disturbance is first evidenced when colors are presented in the second blot, which arouses too much confusion and disturbance to allow an intellectual recovery. That the color stimulus is strongly perceived and responsible for this disturbance is shown by his choice of the "color-naming" response which does not have the same serious import as in the individual Rorschach. Here, the very fact that this response is printed in line with other possible responses gives it the permissive aspect of being adequate for a response. Thus, the choice here would seem to be the easy way out of the situation.

The next area of disturbance begins with the stimulation of the sensual aspects of the personality by the appearance of the texture and symbolism of the sixth card. This arouses so much anxiety that the

only rejection in the test occurs. The pained affective state resulting is further shown on the seventh card where the response "dirty ice and snow" is chosen. This combination indicates sexual maladjustment and when further correlated with the responses on all the color cards suggests an impaired ability of the individual to integrate himself satisfactorily in contactual relationships with the environment. The emotional stimulation of Cards VIII and IX is again handled as in Card II, but on the last card some recovery occurs with a better, but still undifferentiated whole, color-form response.

Interpretively, one derives the impression of an immature individual with emotional lability. The lack of drive and absence of oppositional or of aggressive movements suggests a passive-dependent status in which there is little tendency to try to cope with disturbances or to aggressively overcome handicaps. In line with the latter tendencies, conflicting situations are more likely to be met by symptom formation than behaviorally acted out on the environment. A hysterical pattern is therefore predicted with probable symptom-formation under stress leading to personality inadequacy.

Case History: #309; Age 20; Completed 11th grade; Clinical Diagnosis, Psychoneurosis, hysteria.

This patient was a parachute trooper who had made twelve practice jumps in the field, but had not yet experienced combat. Following a minor blow on the head in his last jump, he complained of nervousness and tremors which prevented further performance of his duties. The pressure of resumption of training was met by a variety of somatic complaints, including headache which seemed to increase in degree as demands were made upon him. He was admitted to the sick list where physical, neurological and laboratory studies were normal. Psychiatric observation showed him to be emotionally unstable, poorly able to tolerate monotony and restriction, and incapable of exercising adequate judgment and control when emotionally stimulated. He failed to improve under treatment, with exacerbation of his complaints when faced with the possibility of returning to duty. He finally was discharged from the service.

The Anxiety States

The psychoneurotic whose manifest clinical symptoms involve anxiety which is subjectively felt as such, and objectively demonstrated by tension, restlessness, and over-stimulation of the sympathetic nervous system, will present a slightly different pattern than the above. Often a more introversive pattern is shown by the appearance of human movement. Color produces a violent reaction which often leads to rejection or evasion with very little use of the color itself. Frequently, however, these cards will stimulate explosive and bombastic effects

which are expressed particularly on the second and ninth cards. Furthermore, the strongly shaded cards produce disturbance in which the responses are dysphorically and sometimes depressively toned with relatively untrammelled use of the shading nuances. Thus, x-rays and anatomical responses are frequent on the fourth and sixth cards. The seventh card is likely to stimulate a diffuse shading response such as smoke or clouds. The intellectual approach is similar to that of the hysteric in that there is very little tendency to analyze carefully the component parts of the blots, although an occasional obvious large detail is chosen.

A fair sampling of this behavior to the blots is obtained in the Multiple Choice Test. The subject with an anxiety state is more likely to respond more than once to a blot than is the hysteric, but even so not all cards elicit a second response. In a similar fashion more large details are seen, but the record as a whole is characterized by undifferentiated whole responses. In our sub-group statistics, the anxiety neurotics were more likely to reject cards and give anatomical responses than any of the other psychoneurotic groups. Pained affective responses to shading were demonstrated by the higher incidence of responses such as "a dirty mess" to the first card, "a nasty mess" to the fourth card, and frank rejection to the sixth card. In the seventh card this sub-group showed the highest number of "smoke and clouds" responses as well as a fairly high percentage of "dirty ice and snow" choices. The incidence of the color-naming response was very high on the eighth and ninth cards whereas recovery almost universally occurred on the tenth card with the selection of the animal (non-color) choice of "spiders, caterpillars, crabs and insects."

An example is afforded by case #70, who produced the following record: (Responses are recorded in order of choice)

Card	I	"A pelvis"
		"A bar"
Card	II	"A bursting bomb"
Card	III	"A red bow-tie"
		"Two men"
Card	IV	"An x-ray picture"
Card	V	"A bat or butterfly"
Card	VI	"A totem pole"
Card	VII	"Dirty ice and snow"
Card	VIII	"An x-ray picture"
		"Pink, blue and orange"
Card	IX	"Parts of my body"
Card	X	"Spiders, caterpillars, crabs and insects."

This record is seen to be quite similar in many respects to case #309 in which a hysterical personality was predicted. However, there are several differences which become apparent. On three cards, there are second choices; and also on three cards, there are prominent or large details chosen. It is to be noted, in contradistinction to obsessionals and those with psychosomatic organ dysfunction, that there are no additional or original responses nor are there any small or rare details.

On the first card, the response, "A pelvis" occurring among non-medical personnel may be significant of an anxiously toned response in which the anxiety is referred to a specific area of the body. Recovery is attained adequately on the second choice, "a bat," which is of course a popular response.

The emotional stimulation of the second card produces the explosive response, "A bursting bomb" which may express the feeling tone of the individual, who is so full of tension and inner driving force that he is about to explode. Proceeding to the third card, we find that the patient has made an almost remarkable recovery from this outburst to choose two good responses, "a red bow-tie" and "two men," which suggests that the subject is able to pull himself together in favorable circumstances and handle reality in a satisfactory manner. However, the advent of the massive and dark shading of the fourth card again creates acute disturbance as illustrated by the response, "an x-ray picture." This supports our early impression of anxiety and tension derived from the second card. Intellectual integrity is demonstrated by the choice, "a bat or butterfly" on the fifth card. The choice "totem pole" does not reveal the depth of disturbance usually evoked by the sixth card in the anxiety group. Instead, it reflects a tendency to intellectualize and rationalize the approach to sexual problems. The pained effect created by the continuance of the shaded cards is apparent again in the response "dirty ice and snow" to the seventh card.

The recurrence of color stimulation in the eighth card creates a violent reaction which is poorly handled by the patient in the responses, "an x-ray picture" and "pink, blue and orange." This emotional confusion is carried over into the ninth card and refers to anxiety concerning his own somatic function in the response, "parts of my body." This suggests that in face of prolonged stress with emotional stimulation, he becomes concerned about his own body function and, therefore, possibly hypochondriacal. It might also be speculated that there is a pattern established in which prolonged anxiety produces secondary physiological dysfunction which focuses the attention of the patient on his somatic symptoms. In the last card, the patient again demonstrates his capacity

for recovery and responds with the popular, "spiders, caterpillars, crabs and insects" which also evades the issue of color and further undue stimulation.

In summary we find that this patient has fulfilled the criteria for anxiety states, with intellectual integrity evidenced by an adequate number of popular responses, and by breakdown only on the "complex" cards. The lack of intellectual impairment is an indication that we are probably not dealing with a psychotic reaction. The intellectual approach is primarily superficial, and lacks the drive of the more compulsive picture. Such an intellectual approach suggests that the man is fixated upon an immature emotional level. In practically all of the disturbed responses he demonstrated overt anxiety and tension with a tendency for body over-concern and hypochondriasis, in conjunction with the anxiety. Furthermore, his responses to the colored cards indicates emotional instability and explosiveness in the face of pronounced stimulation and environmental stress. A diagnosis is therefore predicted of psychoneurosis, anxiety state with hypochondriasis and undue emotional instability. Although capable of holding himself together in favorable circumstances, he is probably unable to adjust adequately to situations of stress, particularly where complicated and perhaps dangerous demands are made upon him. In other words, the combination of external sources of anxiety, with the already strong potential of anxiety from internal sources, dooms the man to failure in the multiple adjustments, dangers and reality anxieties manifest in a military situation.

Case History: #70; Slc; Age 22; Completed 7th grade; Duration of service, 10 months; Clinical Diagnosis, Psychoneurosis, Anxiety Neurosis.

This man was admitted to the sick list, overseas, because of difficult breathing, pressure in the head, insomnia, nervous chills, poor vision, poor hearing and palpitation. Pre-enlistment history revealed that he had "chorea" at the ages of 14 to 18 because of "nervousness." During this period he was under medical treatment and attended one special school which he soon left because he was unable to "stand it." The psychiatrist's summary follows: "Psychiatric examination shows him to be restless, hypochondriacal, egocentric and subject to a multiplicity of physical complaints. Trivial difficulties reduce him to a state of nervousness and inadequacy in which he is quite incapable of exercising mature judgment or initiative. Emotional reaction is markedly unstable. No psychosis is present." He was discharged from the service.

The Obsessive-Compulsive States

The records of the obsessive-compulsive states in the individual Rorschach often differ from the general picture for the neuroses de-

scribed before. In contrast to the limited number of responses, this group may, in compulsive need for perfection and fear of inadequacy, project many responses into the blots. Some of the highest response totals in the individual Rorschach come from this general group. The intellectual approach, instead of being superficial with easy whole responses, is likely to show an emphasis on small and rare details, indicating meticulousness, thoroughness, and perhaps even anxiety in broad generalizations because of the doubts and indecision that haunt these characters. The compulsive character can feel more secure in his ability to give an accurate perception in the small detail of the blot. It should be noted, however, that broad generalizations are not impossible for this group, as there will occasionally be good organizational whole responses in which details are constructed into meaningful concepts.

Occasionally, compulsives will present a record of a limited number of responses, for instance, one response per card, in which the "whole percentage" is quite high. The explanation of this phenomenon is not clear, but it is possible that the subject feels it necessary to utilize the whole blot in each response and that his energy is all used up in this single effort. This pattern may also reflect the ambivalence of the compulsive in which there is a need to submit to environmental demands because of the fear of the consequences should he refuse, as opposed to the negativistic attitudes derived from the childhood frustration of his own needs for individuality and ego expression. Thus the single response to each blot satisfies the former and the refusal to proceed despite his obvious ability to do so is a reaction to the latter. At any rate, this type of record is usually distinguishable from the superficial approach of the hysteric by the presence of original and combinatory whole responses.

The intellectual approach of the obsessive-compulsive in general indicates the existence of a higher potential of drive, which though distorted and wasted in many side issues and substitutions, is not blocked and paralyzed as was demonstrated in the hysterical and anxious subject.

Not infrequently, perfectionism and indecision leads to rejection of a blot in which there is a popular response such as a winged animal in the fifth card. The reason for these rejections is often stated, "the form isn't perfect enough." Frequently responses are given reluctantly and timidly with many self-qualifications and denials, for instance, "It might be a bat, but it doesn't look like one," or the protest, "This takes a lot of imagination, but it could be a butterfly." The compulsive need to give detailed evidence that the projection is justified (1) is further illustration of the doubt, indecision and distrust of self that exists in these personalities.

Examination of the psychogram of the obsessive-compulsive reveals first of all an emphasis on form which is likely to be of the unmodified and undifferentiated sort, the "unrefined control" described by Klopfer (6). Thus a high F% with painful accuracy (very high percentage of F, or pure and good form) is characteristic of this group. The treatment accorded this determinant by the compulsive indicates the intellectualized and conscious control exerted over personality reactions in order to avoid the threats perceived to be a consequence of a more relaxed and free emotional expression. This control reduces the percentages of movement and color responses appearing in the psychogram. The ratio of movement to color (M:C) is usually said to approach equality. However, it has been our clinical observation that the compulsive who acts out his rituals on the environment is more likely to show an excess of color responsiveness; whereas, the obsessional whose final reaction is on a psychic plane, rather than a skeletal muscular one, demonstrates an introversive pattern with an emphasis of movement over color. In either, those color responses that are given are not likely to be adaptive and controlled in type, but are usually of the impulsive and sometimes bombastic and violent sort, indicating the fountain-head of aggressiveness and general emotional reactivity that the obsessive-compulsive is continually holding in check.

The content of responses is another item of differentiation. It will be recalled that the hysteric is seldom wont to project human responses into the blots, the emphasis being almost entirely on animals, and animal-derived objects. Anxiety states also demonstrate this tendency with the addition of anatomy and shading responses. The obsessive-compulsive, and particularly the obsessional on the contrary is likely to project a relatively large percentage of human responses. The latter responses, however, may reflect hostilities and ambivalences in the inability of the subject to identify himself freely with the complete human form. This may be seen in the perseveration of human details (parts of humans) or by the devaluation of the human projection, i.e., "ghosts." The character of the human movement invested in the human responses is often indicative of the degree of inner tension, indecisiveness and conflict in the individual. An example of this is the response, "two men pulling."

Again there is sufficient sampling of the above behavior in the Multiple Choice Test to allow identification of the compulsive character, with inferential diagnostic predictions regarding the degree and form of his neurosis. An over-all survey of the Multiple Choice records from this sub-group reveals several important factors. There may be many choices to each blot; or as stated above, there may be only a

single response. Those records showing a single choice per card can be differentiated from other neurotic subgroups by the coincidence of human movement, small details, rejections and alternative responses. Whereas, rejection was more likely to occur on the "complex" cards in the hysterical and anxiety groups, compulsives may reject Card I, Card V, and Card X. These rejections are incompatible with the level of performance on the other cards. The phenomenon of alternative responses introduces the element of added drive for performance as well as perfectionism and perhaps the oppositionalism of the compulsive individual. Other evidences of perfectionism such as alteration of the record by crossing out part of the printed response may aid in differentiation. For instance, the "or butterfly" may be crossed out of the choice, "a bat or butterfly." White spaces are often utilized, particularly in the combinatory whole responses.

Other compulsives will give as many as four or five choices per card in some instances. Small details such as "pincers of a crab" may be included among large details. The appearance of human responses along with immature and occasionally violent color responses complete the picture.

An example is afforded by Case #692: ("Alternative" refers to the fact that the answer was written in the space marked, "Something other than the above" by the subject).

Card	I	"Ghost behind a window" (Alternative)
Card	II	"Kids playing pat-a-cake" (Alternative)
Card	III	"Two men"
Card	IV	"A giant" (Alternative)
Card	V	"An x-ray picture"
Card	VI	"A turtle"
Card	VII	"I don't know" (Alternative)
Card	VIII	"Two animals"
Card	IX	"Cross section of an erupting volcano" (Alternative)
Card	X	"I don't know" (Alternative)

A general survey of this record reveals several outstanding facts. This subject has accepted only four of the suggested responses, and in the place of four others has written in alternative responses. In two others he has rejected the blots, but instead of checking "nothing at all," has written in the space, "something other than the above," the words, "I don't know." This treatment of the test situation appears to have meaning in revealing the personality techniques of this individual. The first impression regards the patient's degree of suggestibility. Certainly, he lacks the ordinary degree of this phenomenon, and on the

contrary, demonstrates a strong degree of oppositionalism and negativism to stimuli from the environment. The previously mentioned trait of giving one whole response per card is noted here, probably indicating compulsiveness when correlated with this constellation of factors. It is also noted that human and human-like responses are more frequent than animal responses. Only one color response is present, a violent color-form response involving inanimate movement.

The alternative response to the first card is very interesting and revealing. The projection of "ghost behind the window" infers the use of shading in an anxious and dysphoric sense. The use of white spaces indicates oppositional trends. Furthermore, the projection of a devaluated human figure, "ghost," one invested with ideas of death and at the same time of fear-producing qualities, is indicative of inner feelings of dread, despair and depression. Another factor is the concept of a figure behind the window which strongly suggests a potentially persecutory figure. Already, then, from just one response, we are able to speculate the following psychological phenomena in this individual. He is anxious, depressed and projective with a potential paranoid reaction. The projection of his inner self as a ghost in connection with the white spaces indicates that he is at great conflict with forces from within, and that these inner drives are unacceptable, foreign in character, disturbing, and, therefore, must be opposed and further projected. This response gives rise to the fear of a potential break with reality which suggests the possibility of a psychosis.

The response to the second card is almost astounding in its change of affect from the projection discussed above. "Kids playing pat-a-cake" is a good human movement response with none of the despair and anxiety displayed in the first card. This seems to express a regressive need to return to some of the happier aspects of his childhood, perhaps the positive part of his relationship to his mother. The response to the third card, "Two men," is another human movement response and we must now note that the continuation of this trend indicates strong introversive factors along with average or better than average intelligence.

The projection, "giant," to the fourth card again brings up material of probable psychodynamic importance, i.e., the unreal proportions and distortions which the body image has for this individual. Our experience with this card suggests that the use of the choices, "giant" and "a big gorilla" is frequently indicative of a disturbed relationship with the father. It suggests, in view of the previous projections, that the individual has a negative attitude toward a domineering, criticizing

and overwhelming type of father figure. To speculate further, a need to prevent fear and annihilation has led to introjection of the ambivalently regarded father as a super-ego figure which now operates in his own personality as a criticizing and devaluating force against his own drives and strivings to be an individual. The extent of the inner disturbances wrought by this card may be reflected in the bad response, "an x-ray picture" to the next or fifth blot which is an evidence of shading shock and anxiety referred to his own anatomy. The failure here to choose the popular response, "a bat or butterfly," is also significant in its possible inference that the subject does not think along conventional lines and that the force of his inner conflicts is productive of thinking disturbances. This implication is particularly important when correlated with the possibility of a break with reality speculated in the response to the first card.

The response to the sixth or "sex" card is rather surprising, "a turtle," being a non-committal response adequate to the stimulus. However, the first failure comes in the next card which indicates the degree of disturbance that continued exposure to shading and texture arouses. One concludes that he is very sensitive to stimuli arising from the environment, is sensually stimulated, but becomes disturbed and retreats into a withdrawn and self-contained type of adjustment. The technique that he utilizes in rejecting this card is also revealing in that he fails to become positive enough to check the suggested response, "Nothing at all," but prefers to write in "I don't know." This is indicative of doubt, indecisiveness and fear of being wrong. He would rather admit a failure from a negative aspect than be caught in error exerting a positive attitude. This psychological technique is an important component in the perfectionism of compulsive characters.

The emotional stimulation of color again seems to bring about a degree of recovery in the response, "two animals," in the eighth card. Thus, although he can meet new stimulations and changes in the environment with a temporary adequate adjustment, this breaks down under prolonged stimulation as is evidenced by the response, "Cross section of an erupting volcano" to the ninth card. This response is clearly indicative of a strong feeling tone that has been aroused by the colors. A violent emotional outburst with rage and destructiveness is seen to threaten this individual should he relax the rigidity of control and the dynamics of repression. That the emotional confusion and fear of inability to recover is overwhelming, is demonstrated by the rejection of the infrequently failed tenth card, still in the indecisive manner of "I don't know."

To summarize, this is an over-all picture of an obsessive compulsive personality with strong anxiety and depression. He is perfectionistic, but haunted by doubts, indecision and fear of inadequacy. Inasmuch as he is primarily introversive, it is likely that the primary scene of conflict lies in the sphere of psychic reactivity rather than acted out through skeletal muscle function. It may be predicted that he is an obsessional neurotic, with the potentiality of a schizoid breakdown, possibly a paranoid reaction.

Case Summary: No. 692; Age 22; Finished first college year; Clinical Diagnosis, Psychoneurosis, Obsessive-Compulsive Type with Anxiety and Depression.

This man consulted a psychiatrist because of nervousness, headaches, feelings of inferiority and "blue spells." During the interview, he divulged that he has indulged in compulsive counting of people and objects throughout his lifetime. He has a compulsion to make things balance and is continually obsessed regarding the aspects of "large and small." He worries about the future and is generally disturbed when anticipating new things. He can't stand the lack of routine and doesn't like military life. He feels uncomfortable in the presence of strangers. His past history reveals that he experienced nail-biting, stuttering, thumb-sucking, nightmares, headaches, nervousness and enuresis in childhood. He is married to a girl three years older than himself. In his general examination, he shows anxiety, tension, rigidity and continuous nail-biting.

In retrospect, the obsession regarding "large and small" may be somewhat enlightened by the responses of "Giant" and "Kids" playing pat-a-cake, i.e., that the whole struggle for power between the father and the little child has been introjected and is being continually waged within the patient. The regressive aspect of the "pat-a-cake" response may also be borne out clinically by the marriage to an older girl, an effort to re-establish the pleasant aspects of the mother-child relationship. Unfortunately, history of the inter-personal relationships was not recorded so that these speculations must remain in the field of conjecture.

Psychosomatic Organ Dysfunction

The differentiation of psychosomatic organ dysfunction such as irritable bowel syndromes, peptic ulcer, asthma, and others should not be expected as such by a test of this sort. Usually, in the individual Rorschach, these disorders are found to exist in neurotic personality patterns, and the type of dysfunction cannot always be predicted. However, much could be saved in military hospitalization if those with strong predilection for such disorders could be screened out. Although there is not enough data in our collection to be specific, it is our present

experience that these personalities show enough evidence of maladjustment on the Multiple Choice Test to warrant further psychiatric history and evaluation.

Our present collection of cases are too mixed for generalization although there is a trend toward a compulsive and perfectionistic pattern with attention to small details and an occasional bad response. A frequent occurrence is the presence of one or two good responses alongside of a bad response on the same card. This may occur in most of the blots so that the final result may show 10-15 good answers and 4-8 bad answers. Intellectual integrity is maintained as shown by appearance of popular responses and general coherence throughout the test. Anatomical and x-ray responses are fairly frequent.

Case #637 is an example of psychosomatic organ dysfunction. Responses are given in order of the patient's choice.

Card	I	"Pincers of a crab"
		"A pelvis"
Card	II	"Black and red"
Card	III	"Red and black"
		"A red bow-tie"
Card	IV	"Lungs and chest"
		"A pair of boots"
		"An x-ray picture"
Card	V	"A bat or butterfly"
Card	VI	"Sex organs"
Card	VII	"Nothing at all"
		"Dirty ice and snow"
Card	VIII	"Pink, blue and orange"
		"A colored coat of arms"
Card	IX	"Parts of my body"
		"Red, green and orange"
Card	X	"Red, blue and green"
		"Spiders, caterpillars, crabs and insects"
		"Parts of my insides"

This record actually is indicative of a severe psychoneurosis with anxiety, body overconcern, hypochondriasis, and emotional lability and instability. One would expect a very abnormal life history with neurasthenic attitudes amounting in degree to an inadequate personality.

Case History: #637; PhM3c; Age 23; Completed 10th grade; Clinical Diagnosis, Pylorospasm.

This patient was admitted to the sick list with the diagnosis of Constitutional Psychopathic State, Inadequate Personality, because of persistent com-

plaints of epigastric pain, bloating, vomiting, nausea, constipation, nervousness and easy fatigue. He had been hospitalized many times for this group of symptoms since enlistment in the Navy, and to be specific, had spent 126 days on the sick list in the five months prior to the present entry. Past history revealed that he had suffered the same symptoms since the age of 14. The physical and neurological examinations were normal. X-ray examination of the stomach showed pylorospasm with delayed emptying time. A psychiatrist described the man as being emotionally unstable, hypochondriacal, unsettled personality. The diagnosis was changed to pylorospasm and the man was invalided from the service.

It is common experience of military medicine to have severe psychoneurotics spending long terms of hospitalization under physical diagnoses, because one of the end reactions of their total disturbance is dysfunction of some visceral organ. If these men could be screened out, tremendous savings of time and hospitalization could be made. It is our belief that the Multiple Choice Rorschach Test offers promise of a relative degree of success in this direction.

Organic and Convulsive States

Organic and convulsive states are pooled in this discussion inasmuch as they are indistinguishable, interpretively, in the Multiple Choice Test. In our sub-group analysis, convulsive states demonstrated the most abnormal records in terms of number of bad responses and in terms of qualitative analysis. This is an important finding as epileptics are often "negative malingerers" and in their desire to get into the service often conceal the history of their abnormality. A group test showing uniform abnormality in this category should be successful in bringing such recruits to a more detailed questioning and investigation. In our experience, such men are not persistent in their denials if the matter is pressed and there is threat of further investigation. It is therefore of great interest and importance that their responses to the Multiple Choice Test are so universally bad.

The Rorschach characteristics of organic reaction types have been well-covered in previous publications and will not be repeated here (3) (6) (8). In the Multiple Choice Test, convulsives show more rejections than any diagnostic group except psychopathic personalities. Surprisingly, they demonstrate more anatomical responses than any group except the anxiety neuroses. They show the least percentage of human movement responses of all groups. In general, organics and epileptics show intellectual inconsistencies in failure to get popular responses to an adequate number of the cards in which popular percentages are relatively high. The significance of this popular failure is

often enhanced by the appearance of bad answers on the easier cards, such as I, II, V and X. Occasionally, a perseverative trend is noted, for instance, the choice of three to six x-ray responses throughout the test. Such a phenomenon, particularly on single choice per card records, is likely to indicate intellectual dysfunction rather than anxiety. Pure color choices, such as "spots of blood and paint" on Card III and "spilt paint" on Card X, are often found in organic records along with other poorly controlled color responses such as the color-naming variety. Responses indicating inner explosiveness, hostility and aggression are often present, especially in the convulsive group. Strongly pathological responses such as "meat in a butcher shop" on Card III and "smashed body" on Card V may occur, indicating a rather severe breakdown of intellectual control.

In summary, it can be said that organics and convulsives of various types are poorly differentiated from each other in the Multiple Choice Test, but that the degree of abnormality shown by them on the test sets them apart for further attention and evaluation.

Three case records will be cited to illustrate this group, one with grand mal epilepsy and two cases demonstrating psychiatric evidences of organic intellectual impairment, one with post-traumatic encephalopathy and the other having central nervous system syphilis with paresis.

Case #25

Card	I	"An x-ray picture"
Card	II	"Black and red"
Card	III	"Something other than the above," but the patient failed to write in the response.
Card	IV	"Nothing at all"
Card	V	"Nothing at all"
Card	VI	"Nothing at all"
Card	VII	"Nothing at all"
Card	VIII	"Pink, blue, and orange"
Card	IX	"Red, green, and orange"
Card	X	"Nothing at all"

This record is obviously abnormal with six failures and no popular responses. Not a single blot was successful in stimulating a good response. Such a record would seem to come from an individual in whom there is profound intellectual disorder. Although no diagnostic impression is possible from the record itself, the color-naming responses in such a constellation might suggest an organic brain condition in which emotional lability is prominent. One is loath to accredit the in-

terpretation of anxiety to the x-ray choice in such an abnormal record, but if it should be valid in a descriptive sense, it is certainly only a secondary factor.

Case History: #25; SF3c; Age 24; Clinical Diagnosis, Epilepsy.

This man was admitted to the sick list, overseas, after one year of service, because of convulsive seizures. History revealed that he had experienced convulsive seizures with aura, unconsciousness, urinary incontinence, and post-seizure confusion for at least six years prior to enlistment. He was enuretic until the age of 8, had frequent and severe nightmare, persistent finger-nail biting and nervousness with restlessness. Physical and neurological examinations and skull x-rays were normal. Electroencephalogram demonstrated a dysrhythmia compatible with grand mal epilepsy. He was invalided from the service.

Case #74

Card	I	"Nothing at all"
Card	II	"Black and red"
Card	III	"Spots of blood or paint"
Card	IV	"Nothing at all"
Card	V	"A bat or butterfly"
Card	VI	"A turtle"
Card	VII	"Smoke or clouds"
Card	VIII	"Pink, blue and orange"
Card	IX	"Red, green and orange"
Card	X	"Spilt paint"

A perusal of this record reveals 8 bad responses with only one popular choice. The outstanding emphasis is on color with color naming and pure color responses suggesting emotional lability. This subject lacks enough responses indicating intellectual control and human movement to exert a dampening influence upon this emotional reactivity. In our diagnostic prediction, an organic brain condition with emotional lability seems to be the most likely possibility, but we are unable to specify further.

Case History: #74; BK3c; Age 33; Clinical Diagnosis, Post-traumatic Encephalopathy with Post-traumatic Personality Disorder, Emotional Lability and Instability, and Intellectual Impairment.

This man sustained a severe head injury, several years before enlistment, during which he was unconscious for 27 days and was subjected to a trephine operation. Subsequently, he had experienced symptoms characteristic of a post-traumatic syndrome, with headaches, dizziness, faintness on postural change, intolerance of heat, emotional irritability and forgetfulness. He had been discharged from several jobs as a baker because of intolerance of heat and the frequent disturbances while bending over. A continuation of the above symptoms after enlistment led to his entry to the sick list. Physical and

neurological examinations were negative except for a large cranial defect in the right temporal area which pulsed and bulged upon jugular compression. During psychiatric examination, he demonstrated emotional irritability, lability and explosiveness with quick mood changes from anger to tears. Intellectual impairment was evident upon gross testing with routine clinical tests.

Case #468 is an example of generalized brain disorder.

Card	I	"A pelvis"
Card	II	"A bloody spinal column"
Card	III	"Part of my body"
Card	IV	"A nasty mess"
Card	V	"A bat or butterfly"
Card	VI	"An x-ray picture"
Card	VII	"Smoke or clouds"
Card	VIII	"Fire, and ice, life and death"
Card	IX	"Red, green and orange"
Card	X	"Nothing at all"
		"Red, blue and green"

This is another record in which there are 8 bad responses. Again there is but one popular response and there are no responses in which human movement could be predicted. The lack of direction and patterning of responses suggest intellectual dysfunction. Responses to shading and color are uncontrolled and indicate emotional lability. The most likely prediction would seem to involve an organic brain condition with intellectual disturbance.

Case History: #468; ACMM (AA); Age 38; Diagnosis, Dementia Paralytica.

This man was admitted to the sick list because a routine spinal fluid showed a 4+Kahn and a gold curve of 555432100. Psychiatric examination revealed emotional lability and evidence of intellectual impairment. The Shipley Scale for Intellectual Impairment demonstrated vocabulary evidence of average original intelligence with strong evidence of acquired impairment when compared to his conceptual level (Conceptual Quotient, 59). He was no psychotic.

The above cases demonstrate the sensitivity of the Multiple Choice Test for organic brain cases. Many other cases could be cited showing this sensitivity. Although the test does not identify types of organic reaction or even in many instances differentiate them from the convulsive states, the degree of abnormality shown on the test would be effective in selecting such cases for special investigation in screening activities.

Psychopathic Personalities

The lack of Rorschach literature on diagnosis and classification of the psychopathic personalities is but a reflection of the lack of clarity and cohesion in the classification and understanding of these disorders

generally. The heterogeneity of the group is perhaps the most prominent handicap in the clarification of this status. A promising development in the field is the work by Lindner (7) which suggests that the Rorschach test can be used to aid in our understanding of the group as a whole.

To expect the Multiple Choice Test to be able to distinguish such a heterogenous group is to hope for an impossible fulfillment. However, the test will often "spot" the emotionally unstable, the chronic offenders, the potentially criminal, and the sexual and schizoid psychopathies. Any means to eliminate a fair percentage of these men would be of great value in military selection as the psychopath is often the bane of existence of officers and fellow enlisted men. Checks of brig populations usually reveal large percentage of "regular customers" or men who are continually breaking regulations. These men are not only of little value in a military set-up as a whole, but are frequently a distinct liability from the standpoint of morale. Examination of our records show that many of these men could have been isolated by the Multiple Choice test for further psychiatric and historical check despite of the lack of diagnostic specificity.

In search for some approximation of group characteristics a tendency is found to combine an occasional human movement response with an organic type of reaction to the colored cards. Popular responses are more likely to occur than in organics, but these exist side by side with grossly pathological responses, pure color responses, and evidence of hostility and aggression. Early experience with a revised form of the Multiple Choice in which there is included some "fighting" responses has proved a definite aid in segregating these characters. It is noteworthy that the highest percentage of card rejection of all diagnostic groups occurred in the psychopathic group indicating an oppositionalism and negativism to environmental demands. Frequently, a highly colored original response with strong sado-masochistic content will point out a psychopathological substratum. A combination of hostile-aggressive, sado-masochistic and undifferentiated color response is indicative of the tendency to act out aggressions against the environment that is so characteristically demonstrated by chronic offenders. Uncontrolled shading responses suggesting disturbances in affective relationships with the environment are also prominent in many cases.

Suggestions of homosexual trends were often noted in the blind analysis of the overt homosexual group of the sexual psychopaths. This group gives responses suggesting confusion in the body image in regards to the sex role and utilizes objects of primarily feminine interest.

Elucidation of these trends is to be accomplished in a forthcoming publication emphasizing the frequent occurrence of certain content in the records of overt homosexuals.

Schizoid personalities often show little or no utilization of color with a heavy emphasis of movement responses.

Case #8 is a demonstration of psychopathic personality of mixed type in which schizoid elements were prominent.

Card	I	"Nothing at all"
Card	II	"Two clowns"
Card	III	"Monkeys hanging by their tails"
Card	IV	"A dead dog" (Alternative)
Card	V	"A fan dancer"
Card	VI	"Nothing at all"
Card	VII	"A Map"
Card	VIII	"Inside of a volcano" (Alternative)
Card	IX	"Sea horses, or lobsters"
Card	X	"Spilt paint"

This record reflects a severe degree of maladjustment with popular failure, rejections, and inclusion of human movement indicating intellectual inconsistency, failure to think along common lines and social adaptability. His reactions to the color cards suggest a marked degree of emotional instability with capability of violent and explosive reactions, perhaps of an aggressive character, against the environment. Strong internal conflict pervades his whole ego damaging the structure and function of his personality. A sado-masochistic response to the fourth card brings out interesting speculations. It seems here to reflect more a resentful and aggressive component than depressive feeling tone. Anxiety, evasiveness and negativism are also inferred. The combination of good human movement responses with popular failure and very bad responses brings up the possibility of a schizophrenic state, but the emotional reactivity to the environment impells one to reject this as a diagnosis and predict a psychopathic personality with schizoid trends.

Case History: #8; S2c; Age 18; Completed the tenth grade; Clinical Diagnosis, Constitutional Psychopathic State, Schizoid Personality.

This man was referred for psychiatric evaluation because of repeated violations, being A.W.O.L. three times, 24, 18, and 12 days respectively. History from a reliable source revealed that he had been the ward of a social agency for years, being a constant problem from the standpoint of home placement. Following the death of his father, the child had been "given away" by the mother at the age of three. He has always been bashful, seclusive, and has feared crowds and cities. Since his enlistment, he has located his real mother and his periods of over-leave have been spent in pursuing and trying to remain with

her. To psychiatric examination, he was quiet, inoffensive in appearance, childish in manner, and unsociable. Mild ideas of reference and persecution were present; "Every-one is against me." No delusions, or hallucinations were elicited. He was discharged from the service.

Case #84 is further illustrative of the mixed picture in the psychopathies.

Card	I	"An x-ray picture."
Card	II	"Kidneys" (Alternative)
Card	III	"Two men"
Card	IV	"An animal skin"
Card	V	"A bat or butterfly"
Card	VI	"Nothing at all"
Card	VII	"Dirty ice and snow"
Card	VIII	"Two animals in a cave of lava" (Alternative)
Card	IX	"Two people-witches or Santa Clauses"
Card	X	"Hobgoblins" (Alternative)

This record is again indicative of severe maladjustment with a mixture of anxiety, sexual maladjustment, difficulty in dealing with the environment, and emotional instability. The peculiar aspects of the original responses may also reflect a schizoid trend. The alternative response, "Kidneys" to the second card is interesting in the light of the observations of Jacob (5) that enuretics and stutterers are likely to project urogenital organs, water and sea animals into the blots. A brief survey of our material tends to corroborate this clinical observation with the addition of fire or fire-like projections. Furthermore, convulsives also show a predilection for this content.

Case History: #184; Age 19; Completed tenth grade; Clinical Diagnosis, Constitutional Psychopathic State, Inadequate Personality.

This patient was admitted to the sick list with a tentative diagnosis of psychoneurosis, Anxiety Neurosis, because of anxiety symptoms rendering him unfit for duty as a hospital corpsman. He had completed hospital corps school only three months prior to admission. Past history revealed that he has always been seclusive, indifferent and apathetic in his habits. Nail-biting has persisted throughout his life-time and he was enuretic until the age of 16. He had run away from home three times for "a change" and was frequently truant from school. His mother had stated that he was so nervous at home that it was improbable that he would be able to stand the service. The clinical psychiatric findings were those of constitutional psychopathy with periodic anxiety, restlessness and irritability. The personality integration was considered to be inadequate with willfulness and stubbornness. He was discharged from the service.

Mental Deficiency

The Multiple Choice Rorschach response patterns tend to break down in mental defectives from the interpretive standpoint. Some of our

most glaring errors in predictions have occurred in this group. However, practically all of the mental defectives demonstrate pathological records from the consideration of number of bad responses. They will, therefore, be segregated for further investigation in the process of screening even though specific diagnostic prediction is incorrect. Case #664 is illustrative of this point.

Case #664

Card	I	"A bat"
Card	II	"Two scottie dogs"
Card	III	"Meat in a butcher shop"
Card	IV	"A nasty mess"
Card	V	"Nothing at all"
Card	VI	"Mud and water"
Card	VII	"Smoke and clouds"
Card	VIII	"Two animals"
Card	IX	"Red, green and orange"
Card	X	"Spilt paint"

Although this record is definitely abnormal with seven bad responses, it is difficult to categorize from the standpoint of differential diagnosis. It does not suggest a diagnosis of mental deficiency, but rather emotional immaturity, instability, anxiety, and disturbance in dealing with the environment with likelihood of aggressive behavior. Thus the prediction is more in line with a personality disorder with emotional instability and probable behavioral disturbance.

Case History; #664; Age 17; Completed sixth grade; Clinical Diagnosis, Mental Deficiency, Moron.

Admitted to the sick list following a panic state with confusion, excitement and fear of impending harm following ingestion of a moderate amount of alcohol. Past history revealed that he had been unable to learn in school after the third grade, having repeated the third, fourth and fifth grades. He reached the sixth grade at the age 16. Following enlistment, he had engaged in several fights because others had called him "stupe." Physical examination revealed microcephaly. The Wechsler-Bellevue test gave an intelligence quotient of 66. He was discharged from the service.

Summary and Conclusions

The possibilities of success in differential diagnosis by utilization of the Multiple Choice Test have been explored in 200 neuropsychiatric cases. Interpretive principles in common usage with the individual Rorschach have been applied as far as feasible in addition to other factors which arise from a radical change in the testing situation. Significant correlations were obtained between the blind analyses and clinical summaries of the cases in this study.

A methodology of interpretation for use with the Multiple Choice Tests has been outlined with illustrations demonstrating its application. Representative cases have been presented from various diagnostic groups with a discussion of the psychodynamics and psychological techniques which underlie the response patterns on the Multiple Choice. A comparison of these records demonstrated well-marked differences in pattern among the diagnostic groups. These differences permit relatively successful classifications as to diagnostic category, prediction of personality structure and degree of maladjustment.

The most accurate inferences of form and degree of maladjustment are possible in the psychoneurotic sub-groups. Organic and convulsive states can be differentiated from other diagnostic categories in a large percentage of cases, but are less accurately specified within the group. Psychopathic personalities can often be recognized by their response patterns. Mental defectives show very abnormal response records, but are not accurately discriminated by this modification of the Rorschach Test.

BIBLIOGRAPHY

1. Goldfarb, W. A Definition and Validation of Obsessional Trends in the Rorschach Examinations of Adolescents. *Rorschach Res. Exch.*, 7: 81-108, July, 1943.
2. Harrower-Erickson, M. R. Diagnosis of Psychogenic Factors in Disease by Means of the Rorschach Method. *Psychiatric Quarterly*, 17: 57-67, Jan., 1943.
3. Harrower-Erickson, M. R. Personality Changes Accompanying Cerebral Lesions. I. Rorschach Studies of Patients with Cerebral Tumors. *Arch. Neurol. and Psychiat.*, 43: 859-890, May, 1940.
4. Hertz, M. R. and Ebert, E. H. The Mental Procedure of 6 and 8 year old Children as Revealed by the Rorschach Inkblot Method. *Rorschach Res. Exch.*, Vol. VIII, No. 1, Jan. 1944, pp. 10-30.
5. Jacob, Zoltan. Some Suggestions on the Use of Content Symbolism. *Rorschach Res. Exch.*, Vol. VIII, No. 1, Jan. 44, pp. 41-42.
6. Klopfer, B. and Kelley, D. M. *The Rorschach Technique*, World Book Company, Yonkers-on-Hudson, N. Y., 1942.
7. Lindner, R. M. The Rorschach Test and the Diagnosis of Psychopathic Personality. *Journal of Criminal Psychopathology*, V: pp. 69-93, July 1943.
8. Piotrowski, Z. The Rorschach Inkblot Method in Organic Disturbances of the Central Nervous System. *Journal of Nervous and Mental Dis.*, 86: 5, Nov. 1937.
9. Wittson, C. L., Hunt, W. A., and Older, T. J. The Use of the Multiple Choice Group Rorschach Test in Military Screening." *Journal of Psychology*, Vol. 17, pp. 91-95, Jan. 1944.

SECTION VIII

Modification of the Multiple Choice Test in the Light of the Recent Investigation

THE AMPLIFIED form of the Multiple Choice Test* (see Section X) resulted from a study of the results obtained over a period of one year with the original version presented and discussed in the preceding sections.

More than 300 investigators worked with this original test blank and many were willing to discuss and share their findings with us and to report the difficulties which they encountered in their investigations so that we were able to take steps to modify the material and procedure.

We found from these informal reports that the test was used for a wide variety of problems, under various conditions and by persons fully trained in the Rorschach method as well as by those who knew nothing about it. More than 50,000 test blanks were utilized and norms derived from the study of various groups of subjects, were submitted to us. While it is quite impossible to mention all these numerous investigations, we may say that as far as the military application of the test is concerned, it was applied in Induction, Rehabilitation, and Classification centers, and in a large number of neuropsychiatric divisions of station hospitals in this country. Reports were also received from psychologists and psychiatrists using the procedure overseas. Schools, colleges, industrial organizations, state hospitals, guidance clinics, and placement bureaus were among the civilian agencies interested in its use.

In the course of the year we were much interested to notice that the primary emphasis shifted away from the use of the test as essentially a mechanical screening device and was placed upon the information which could be derived from it concerning the individual's personality make-up.

In the light of this rather extensive experimental period several alterations were made in the form of the test and in the manner of handling results which we shall enumerate and discuss here.

* Dr. Frank Fremont-Smith is responsible for many ideas which are epitomized in this new version of the test. We are also indebted to Lt. (j.g.) Floyd Due, Ensign Erik Wright and Dr. B. Wright for submitting items which they had found to be of special significance, also to Mrs. F. R. Miale for helpful suggestions.

Alternate Answers

The inclusion of the space for an alternative answer, "Something other than the above," of the original test form, proved to be more confusing than helpful, since such answers in order to be handled properly, necessitated the knowledge of Rorschach scoring principles. Our initial instructions, that all alternate answers were to be classified as poor answers was definitely misleading and resulted in the increase of false positives among normal subjects in a number of cases.

It is true that when the investigator was cognizant of Rorschach principles, much helpful information about the testee was derived. (See Section VII.) It is also true that in some cases, even without knowledge of Rorschach principles, the alternative answers proved helpful. For example, several examiners reported that it was essentially a compulsive type of individual who insisted on writing in his own answers instead of checking very similar ones already listed. Others reported that frequently the content of the alternative answer was a good lead to follow in the psychiatric interview since it frequently revealed some peculiarly personal problem.

For statistical handling of results, however, and for comparative purposes, the alternative answers were not helpful, introducing as they did one source of ambiguity and lack of uniformity between the results of different investigators. The revised form of the test blank, therefore, has eliminated the choice, reading "Something other than the above."

Placing the Cutting Point at 4 "Poor" Answers

In deciding which point on the scale should be considered as the critical one for separating the suspect from any group, it is necessary, as Mittelman has pointed out, to have clearly in mind what one wishes to accomplish through the use of the test: "One may aim at either of two goals: a) to devise and score tests so as to detect only those who are unquestionably unfit, emotionally, for military service. In this case, the number of those rejected by the test may be a relatively small percentage, e.g., 8% and many of the unfit will not be caught by the test; or, b) to devise and score tests to separate all those unfit for military service. In this case, the separated group will inevitably include many of those who are fit for service. It is then the task for the examining psychiatrist to determine the status of those marked as questionable by the test. In this case, the percentage of men referred for interview will be higher, e.g., 33%. (1)

In our original experiment we contrasted the performance of psy-

chotics and severe psychoneurotics with groups of normal subjects who, with the exception of the prisoner group, came from rather superior backgrounds. It was clear that, in this particular comparison, we caught more of the patients and correspondingly misjudged fewer normals when the cutting point was placed at 4 poor answers. Our sample, however, was not, statistically speaking, a large one. The groups had not been accurately equated for the factor of intelligence,* nor had we dealt with a large enough group of psychoneurotics as distinct from the institutionalized psychotics. It is not surprising to find, therefore, that our first rather arbitrary suggestion as to the point where the screening out of cases should take place was not adequate in all groups and was actually misleading in some others.

Although it is possible with certain types of subjects to get worthwhile results with a cutting point of 4 poor answers, the degree of overlap between the normal and the maladjusted, or psychoneurotic recruit, has been shown to be too great to make this the sole criterion for screening in investigations with military personnel.

The study of Wittson, Hunt, and Older (2) illustrated this clearly. They found that in order to detect (with a cutting point of 4 poor answers) 59% of the group of recruits subsequently unfit for service, 44% of a group who were accepted for service would also be suspect. They conclude therefore, that "The Multiple Choice Test has not been developed to a stage where it is a serviceable instrument for military selection."

Similarly Due, Wright, and Wright report that "the degree of overlap in our statistics indicate that a cutting point of 4 would segregate more than 50% of the prospective neuropsychiatric casualties, but that it would also include a large number of false positives who adjust satisfactorily despite evidences of conflicts on a deeper level." (See Section VII.) These same investigators have also shown that with an alternative, but also purely quantitative scoring, they would detect "31% of the patient group, but would also single out 19% of the normal subjects." However, and this is the interesting point, they felt that "subsequent experimentation with the test at embarkation centers has strongly validated the inference that the 19% so designated are

* Eysenck at the Mill Hill Emergency Hospital in London has recently commented on this fact and writes: "We are going to give the test to all our incoming patients for a while, and I hope to be able to get a normal control group from various . . . places in the neighborhood. I propose to use a rather different form of recording and scoring which will give a wider spread than your own, and we are going to devote special attention to the influence of intelligence on responses. I am also rather interested in the question of sex differences as far as they may affect this test. (Italics ours.)"

the ones who have been judged to be adjusting with difficulty." (See Section V.)

In other words while the inadequacy of this cutting point as a sole criterion cannot be overlooked, neither can the possibility that the "normals" screened out at this point, are not those who subsequently show maladjustment.

Placing the Cutting Point at 5 "Poor" Answers

Several investigations would seem to indicate that a cutting point of 5 poor answers is a useful one. Due, Wright, and Wright (see Section V) report "Clinical experience with the test has repeatedly demonstrated to the authors that an individual with 5 negative responses shows marked behavior disturbance. This difficulty is almost always of a sufficient degree to prove disabling for military service."

A recent investigation (3) with a student population may be quoted in this connection. Three hundred and eight entering summer school students (ages 16 to 45 years) were examined by the Multiple Choice Test as part of their physical health examination. With a cutting point of 5 poor answers 90 students or 29% of this group were screened out.* These 90 students were then given a psychiatric examination, and of these, 40 were considered by the psychiatrists to show some psychopathology. During the psychiatric interview the Multiple Choice Test was repeated, this time as an individual test. The diagnoses given subsequent to the psychiatric interview for these 40 subjects are listed here:

Incipient schizophrenia.....	3
Anxiety tension state.....	19
Narcissistic regression pattern.....	1
Adolescent reaction.....	5
Psychopathic personality.....	5
Fatigue neurosis.....	1
Menopausal syndrome.....	1
Compulsive obsessive neurosis.....	1
Mentally dull.....	1
Diagnosis deferred.....	3

It is clear that in order to spot these 40 individuals, another 50 persons, with only minor worries and anxieties, had been picked out. On the other hand some cases which would not otherwise have come to the psychiatrist's notice were made available for *immediate* treatment. This initial screening test also made possible *continued* psychothera-

* These figures were erroneously given as 79 and 26% in (3).

peutic treatment throughout the summer school period which was considered important.

As a result of this study the authors have pointed out several facts which may be helpful in the handling of similar groups. For example, it was felt that repetition of the Multiple Choice Test, with individuals who had been screened out was valuable. Of those who *repeated* their poor scores on the second test, 95% showed some psychopathology, while amongst those subjects who improved on the second presentation of the cards only 33% were considered to be disturbed.

Various reasons for the appearance of "false positives" were also listed. For example, since the test was given at the same time as the physical examination it "tended to engender anxiety in the minds of those with physical disabilities. Amongst those later considered as false positives was a student who had undergone a pulmonary lobectomy, and another whose history showed a recent cerebral hematoma." These students were apprehensive lest their physical disabilities might bar them from summer school.

Amongst other factors which tended to produce false positives were: the misunderstanding of the instructions with regard to alternate answers, the inability to see the slides clearly owing to refractive errors, and an erroneous assumption or "mental set" that, since this was a medical examination, the slides were biological or anatomical in nature.

A similar investigation from another university (4) shows an interesting contrast between the freshmen and senior groups in medical school. Amongst the freshman class 29% of the members showed records with 5 or more poor answers, indicating some degree of maladjustment, while amongst the seniors, from whose ranks it is to be assumed the weaklings had already dropped by the wayside, only 4% were found to show a similar score. Moreover, of the 6 individuals who comprised this 4% of the senior class, three were already known to be under psychiatric guidance.

Placing the Cutting Point at 6 "Poor" Answers

In certain cases an even higher cutting point may be advocated; for example, if it is the examiner's desire to earmark only those with some disturbance and to exclude false positives. A recent report from an army camp (5) shows that with a cutting point of 6 poor answers, in contrasting 100 "normal" soldiers with 113 who have failed to adjust, 7% of the former group was screened out as opposed to 37% of the latter. With a cutting point of 7 only 1% of the normal group was

included as opposed to 25% of those who had failed to adjust. For this type of subject, therefore, in order to detect with certainty 25% of those who would not adjust and in order not to include any of those who would adjust, a cutting point of 7 poor answers is clearly indicated.

In the revised form of the test blank, therefore, 60% poor answers is suggested as probably the best cutting point, with the cases falling between 40% and 60% being considered as borderline, or questionable, and investigated in the light of other criteria.

The Weighting of Scores

We were aware in our initial experiments that in all probability the poor answers should not be considered of equal weight. We felt that after large numbers of subjects had been investigated, certain poor answers would turn out to be considerably "worse" than others. It was impossible, however, to do more than guess from our small sample as to which answers would turn out to be the most significant.

Several investigators have now analyzed their data to determine which answers were most significant for the purpose of discriminating between the adjusted and maladjusted individual. Three independent investigations all point to the same conclusions; namely, answer 10#, failure to give any answer, is considerably more important than any other type of poor answer. When one remembers the extent to which failures show up among the psychotic patients in the group Rorschach (see page 135) this result is not surprising. At the other extreme answers #6 and #7 (anatomical answers and the X-ray answers), unless present in great quantities in a record, are hardly diagnostic at all. In fact, they sometimes occur more frequently in the well-adjusted than in the poorly adjusted group!

Consideration of results from one Induction center may illustrate this point. Answer #10, for example, is given on an average of .1 and .2 times per record in two control groups; but in a group of equal size of persons diagnosed as schizoid personalities, answer #10 occurs 1.6 times per record. On the other hand for these same groups, answer #6 appears .6 and 1.0 times per record amongst the two control groups, and 1.1 times per record amongst the schizoid personalities. Clearly, then, for this type of subject, the normal inductee, answer #6 is not a poor answer at all and is not diagnostically significant in any way. In the amplified version of the test, therefore, answers #6 and #7 are scored as only one half; or two such answers are required to be present before they are scored as one poor answer. This means that it would require ten such answers in a record before an individual would be screened

out in terms of these answers alone. We might also recommend at this point that the weighting of twice the number of poor answers be given to each score of #10, although this had not been adopted to date.

Answers Given as Second and Third Choices

One of the main difficulties which arose in the original form of the Multiple Choice Test was the scoring of second (often third and fourth) choices. Were these to be given equal weight with the first choices? How severely was an obviously productive individual, who had added many additional choices, to be penalized if his additional answers contained poor choices? Some investigators reported cases where the first answers were good but where second choices were markedly poor and that the picture presented by the second choices was closer to the clinical estimate. Other investigators were inclined to disregard second choices entirely either as insignificant or because no uniform policies had been outlined for their scoring.

A clearer understanding of the relationship of a first choice to an additional one was obviously necessary and as the new instructions show, has been explicitly dealt with in the revised form of the test. In the new form of the test the subject is asked to underline the one answer in each of three groups of answers which he thinks is the best description of the inkblot or any of its parts. Then, when he has done this, he is asked to put a check beside any other answer in any of the three groups which he also feels is a good description of the inkblot or any of its parts. (See Section X.) By these instructions we have not only tried to obtain one answer from each of three groups of ten answers for each inkblot (i.e., three answers for each inkblot), but also to elicit as many other answers as possible which the subject cares to give.

Suggestions for Scoring

In the scoring of these answers we suggest that, first of all, a percentage is obtained of the number of poor answers in the record as a whole regardless of whether or not they are given as first or additional choices. When a score of over 60% is obtained in this way, the record can be considered as suspect. Records with a total score of from 40% to 60% should be considered borderline and re-examined in the light of the scores obtained from the first and the additional answers, separately. They should also be considered in the light of the total number of responses given to the test as a whole. By and large the individual who gives several additional answers to each card, and whose total number of responses is therefore over 50, is probably less disturbed,

even with the *same percentage* of poor answers, than the individual whose total number of responses is 30 or less. Or again, the individual who shows most of his poor answers in his first choices, particularly if these contain the choice "Nothing at all," is probably less adequately equipped psychologically than the individual who, with good first answers, adds "Nothing at all" amongst the additional ones.

We are unwilling, however, at this point to be too insistent on the significance of the relationship of poor answers in first and additional choices. We feel that the more productive individual is much better able to do himself justice in this new version of the test than he was in the original one, and that in a great many cases the person screened out at a cutting of 4, 5, or even 6 when first answers alone are considered, will not be screened out when the test gives him the opportunity to add as many answers as he wishes and when these answers are considered as equally indicative of his performance as a single choice would have been.

Thus the three hundred choices offered in the revised form of the test afford the opportunity for a richer and more detailed record to be obtained from the productive individual, i.e., the individual whose productivity, if allowed to register, will cancel out the detrimental aspects of the poor answers. Records obtained from this version of the blank lend themselves to fuller interpretation along orthodox Rorschach lines, and at the same time borderline cases may be somewhat better understood by the investigator without knowledge of Rorschach principles.

The "Depth" of a Given Disturbance

A similar problem to that of the additional answers presents itself in the question of how serious is the disturbance, or blocking, revealed in any poor answer.

"Color shock" for example, was frequently revealed by a failure on Card II or by the choice of the answer "Red and Black" on the original form. In the orthodox Rorschach record we are interested in the "depth" or extent of this inability of the subject to respond to the colored cards. Can he, for instance, recover his balance quickly or will he be unable to respond to the card no matter how long he is allowed to look at it?

The revised form of the test has aimed at showing something of the degree of a given disturbance. The three groups of answers (see Section X), from each of which a choice is required, allow of two additional "approaches" to the blot to be made. An individual who

continues to give "Nothing at all" in all three groups of answers is clearly more disturbed by it than is the individual who can recover from his "Nothing at all" answer in group A, giving good answers in both groups B and C. In this way many cases, which on the original form would have been screened out by virtue of their one "Nothing at all," will not necessarily be screened out in the longer version. The "recovery" will be registered and the scores (now in percentage terms) of first and additional answers will demonstrate or take this recovery into account.

*The Use of the Multiple Choice Test in Connection
With Other Tests*

A number of investigators have reported the use of the Multiple Choice Test as part of a battery of psychological tests. This, we feel, is the most advantageous way of using it, and we may mention here one or two constellations in which it has already appeared.

A frequent partner has been the Cornell Selectee Index (6). In this connection the results as described by Mittelman seem to have been upheld in subsequent investigations. Mittelman (1) reported: "The Selectee Index has shown itself to be most effective in detecting the presence of anxiety states, hypochondriasis, asocial trends, convulsive disorders, and psychosomatic syndrome. It is less effective in the screening of those likely to exhibit the so-called monosymptomatic disturbance, i.e.; hysterical palsies, etc. It is also limited in detecting obsessive states and pre-psychotic states. In comparison the Multiple Choice Test does best on psychoses and less well on psychoneuroses. It is possible that the best results will be arrived at through a combined administration of both tests." A similar report has recently been made from one of the Induction Centers: "The Multiple Choice Test appears to have an advantage with schizoid personalities, to do less well with psychoneurotics, and to rate as abnormal about the same proportion of normal subjects as does the Selectee Index. The data also suggest that the Multiple Choice Test may be superior with psychopathic personalities." (7)

A comparison of the Multiple Choice findings with the Thurstone Personality Inventory seems to indicate that these two tests may be valuable when given in conjunction, since they may provide supplementary information to each other. Comparison with the Minnesota Multiphasic Test (8) has been undertaken by several investigators and their results should be available shortly.

In an investigation aimed at the selection of officer candidates in one of the women's services, the Multiple Choice Test was "adminis-

tered and scored early in the battery of tests in order that the scores could be known to the interviewer and Military Testing Officer. Any candidate scoring more than 4 poor answers on this test was given a modified form of the Thematic Apperception Test." (9) The interest in this investigation centered primarily on those with exceptionally good records on the Multiple Choice Test. Comparison of Multiple Choice scores with other findings indicated that for one group thus examined 78% with no poor answers were considered as unquestionably acceptable candidates by the Selection Board on the basis of the interview and their performance on the other tests in the battery. (9)

An important investigation to discover the *degree of literacy* necessary to make the findings of the Multiple Choice Test valid has recently been begun. (10) Seventy-five subjects rating 7, 8 and 9 (out of a possible 17) on the Army Qualification Test, which is primarily a literacy test, were also examined by the Multiple Choice Test. Upon completing this, they were asked: "Was there anything about this that you did not understand? Was there anything that bothered you?" It was found that 53 subjects did not know five or more than five words or phrases. It was felt, therefore, that possibly the Multiple Choice Test was not valid for these groups. However, even with these gaps in the subjects' understanding, the relation of the Multiple Choice Test scores to the psychiatric finding is still suggestive. Of those with less than 4 poor answers only one case, or 4%, was rejected for psychiatric reasons; whereas, of these with 5 or more poor answers 16 cases, or 31% were rejected by the psychiatrist.

REFERENCES

1. Mittelman, Bela. Proceedings of the military session. *Psychosomatic Medicine*, 1943, 5: 359.
2. Wittson, C. L., Hunt, W. A. and Older, H. J. The use of the Multiple Choice Group Rorschach Test in Military Screening. *Journal of Psychology*, 1944, 17: 91-94.
3. Harrower-Erickson, M. R., Washburne, A. C. and Jacobs, J. S. L. A preliminary screening test for disturbances in personality. *Bull. Canad. Psychol. Assn.*, 1944, 4: 4-6.
4. Personal Communication from Dr. McCulloch.
5. Friedman, Samuel. The Harrower-Erickson Multiple Choice Test in military psychiatry. (Paper read at the Symposium on the Use of the Rorschach Method in the Armed Forces, 1944.)
6. Weider, Arthur; Mittelman, Bela; Wechsler, David; and Wolff, Harold. The Cornell Selectee Index. *Jour. Amer. Med. Assn.*, 1944, 124, no. 4: 224-228.
7. Unpublished report.

8. McKinley, J. C. and Hathaway, S. R. The identification and measurement of the psychoneuroses in medical practice. *Jour. Amer. Med. Assn.*, 1943, 122, no. 3: 161-167.
9. Harrower-Erickson, M. R. The use of the Multiple Choice Test in the military services. *Proceedings of the Brief Psychotherapy Council*, 1944.
10. Smith, Douglas. (Paper read at the Symposium on the Use of the Rorschach Method in the Armed Forces, 1944.)

Summary of Alterations and Suggestions for Handling Results

1. The number of choices has been increased from 100 to 300.
2. Alternate answers are not mentioned in the instructions nor are they provided for with a space to record "something other than the above."
3. Three choices are required for each inkblot, one to be taken from each of three groups of ten answers. These choices are to be underlined.
4. In addition, any other response which the subject also sees is permitted. These additional choices are marked with a check.
5. The instructions on the new test blank have been rephrased after many attempts to find the shortest and simplest form.*
6. A few items have been omitted from the original version of the test because they give rise to difficulties related to false positives.
7. The record should be scored by consulting the key. (See Section X) The number which describes any given answer should be recorded beside the choice on the test blank. When all answers have been scored, the total number of answers from #1 to #5 ("good" answers) and the total number of answers from #6 to #10 ("poor" answers) should be recorded for the underlined answers (first choices) and the checked answers (additional choices) separately.
8. A percentage rather than an absolute number is taken as the cutting point. It is suggested that three percentages be calculated: a) the percentage of poor answers for the record as a whole. In this case no distinction is made between first choices and the additional ones, but consideration should be given to whether or not the total number of choices is large or small; b) the percentage of poor answers in the thirty required choices; c) the percentage of poor answers in the unlimited number of additional choices.
9. Since the cutting point of 4 poor answers (or 40%) is not the most advantageous one, we suggest that if poor answers constitute 60% of the total score, the record should be screened out for more careful study of the individual from other angles by

* We are indebted to Mr. Cassens for help in regard to clarification of the instructions after use of the test in an Induction Center.

other tests or psychiatric interview. Cases with scores between 40% and 60% should be further investigated in the light of other factors in the test itself before they are considered as records which should be screened out. In these borderline cases the richness or meagreness of the record should be considered.

10. Answers #6 and #7 have recently been shown to be statistically less significant as indications of maladjustment than answers #8, #9, and #10, it is suggested that these answers (#6 and #7) be scored as one half poor answers. Numbers should be rounded off to the nearest digit. For example, three #6 answers would count as only one poor answer. Or, again, two #6 answers and three #7 answers would count as only two "poor" answers and so on. In view of recent findings, it may also be suggested that #10 should be scored as two poor answers.
11. When given as a group test, the amplified version requires *a three minute exposure period* for each slide. The slides should be presented in total darkness for at least *30 seconds*, and should still be clearly visible (even if not so brilliant) when lights, sufficient only for reading the blanks, have been put on in the auditorium.

SECTION X

Amplified Multiple Choice Test Combined with Key Numbers for Examiners' Use

A COMBINATION of the 300 responses offered in the Amplified version of the test, and the key numbers by which these responses are represented, is given in the following pages. *Needless to say these numbers do not appear on the actual blanks which are supplied for the subjects taking the test nor are the poor answers italicized.* It was found however, after several experimental versions of this key had been tried out, that there is less chance of error in scoring if the numbers are listed by the side of the responses, rather than without them.

If the used test blank is folded, so that, as each Inkblot is scored, it is put alongside the equivalent list in these pages, it will be found that the underlined and checked answers can be readily recorded. If a very rapid and undifferentiated scoring is required, then merely counting the *number* of poor answers chosen by the subject is facilitated by the italicized words and by the darker type in which numbers 6, 7, 8, 9, 10 have been set.

The following Instructions are printed on each blank, but in group situations, should also be read aloud by the examiner.

INSTRUCTIONS

You are going to see ten inkblot pictures one after another.

Begin by taking a good look at Inkblot I and see if it, or any part of it, reminds you of anything or resembles something you have seen.

Then read through each of the three groups of answers for Inkblot I (A, B, C).

Now underline the one answer in Group A, the one answer in Group B, the one answer in Group C, which you think is the best description of that inkblot or any of its parts. You, therefore, underline three answers for Inkblot I.

When you have done this, if you wish, you may put a check beside any other answer in any of the three groups which you also feel is a good description of the inkblot or any of its parts.

Then do exactly the same thing for each of the other inkblots.

INKBLOT 1

A

- 3 An army or navy emblem
- 9 *Crumbling cliffs*
- 2 A bat
- 10 *Nothing at all*
- 1 Two people
- 3 A pelvis
- 7 *An X-ray picture*
- 4 Pincers of a crab
- 9 *A dirty mess*
- 6 *Part of my body*

B

- 1 A headless figure . . .
- 3 Vertebra
- 4 Tiny boxing gloves
- 9 *Spilt ink*
- 6 *Someone's insides*
- 10 *Nothing at all*
- 2 A butterfly flying
- 9 *Lava*
- 3 A coat of arms
- 7 *An X-ray of the chest*

C

- 3 A Halloween mask
- 7 *Storm clouds*
- 2 A moth
- 1 Two people . . .
- 3 A bell in the center
- 7 *An X-ray picture of the spine*
- 4 Animal heads on the sides
- 6 *The stomach*
- 10 *Nothing at all*
- 8 *Eyes glaring at me*

INKBLOT 2

A

- 8 *A bug somebody stepped on*
- 10 *Nothing at all*
- 2 Two scottie dogs
- 4 Little faces on the sides
- 6 *A bloody spinal column*
- 5 A white top
- 8 *A bursting bomb*
- 2 Two elephants
- 1 Two clowns
- 9 *Red and black ink*

B

- 7 *An animal skin*
- 2 Two bears rubbing noses
- 4 Faces of Indians on the side
- 8 *Blood*
- 10 *Nothing at all*
- 5 A white lamp
- 8 *An exploding firecracker*
- 3 A red butterfly
- 1 Two people playing . . .
- 9 *Red and black splotches*

C

- 1 Two witches
- 9 *Black and red paint*
- 2 Bears' heads
- 9 *An empty hole*
- 4 Faces carved in stone
- 6 *Lungs and blood*
- 5 A white sting ray
- 4 A little temple in the center
- 10 *Nothing at all*
- 8 *An erupting volcano*

(Continued on next page)

INKBLOT 3

A

- 2 Two birds fighting
- 8 *Meat in a butcher's shop*
- 1 Two men pulling . . .
- 6 *Part of my body*
- 9 *Just colored blots*
- 3 A colored butterfly
- 8 *Spots of blood and paint*
- 2 Monkeys hanging . . .
- 3 A red bow tie
- 10 *Nothing at all*

B

- 3 A red brooch
- 6 *A person's insides*
- 1 Two cannibals
- 2 Donald Ducks
- 8 *Fire and smoke*
- 10 *Nothing at all*
- 8 *Spilt paint*
- 1 Two women quarreling
- 9 *Blood and dirt*
- 1 Alphonse and Gaston—
"after you"

C

- 4 Two birds' heads
- 6 *A bloody stomach*
- 1 Two waiters bowing
- 7 *An X-ray picture*
- 9 *Dirty spots and bloody spots*
- 3 A colored hair ribbon
- 8 *Lipstick splotches*
- 2 Falling cats
- 10 *Nothing at all*
- 2 Fish swimming

INKBLOT 4

A

- 4 Head of an animal
- 6 *Lungs and chest*
- 9 *A nasty, dirty mess*
- 4 A pair of boots
- 9 *A burnt mass*
- 10 *Nothing at all*
- 1 A giant in a fur coat
- 3 An animal skin
- 2 A big gorilla
- 7 *An X-ray picture*

B

- 4 A little flower on the top
- 6 *The spine*
- 9 *Dirty water*
- 3 Charlie Chaplin's feet
- 9 *A nightmare*
- 1 A man sitting down
- 3 A fur rug
- 2 Two Scottie dogs
- 9 *A black smudge*
- 10 *Nothing at all*

C

- 7 *Clouds*
- 2 A bat
- 1 A man seen from below
- 10 *Nothing at all*
- 9 *Something squashed*
- 9 *A frightening picture*
- 6 *A person's insides*
- 4 Two little snakes
- 3 Big overshoes
- 3 A cow's head

INKBLOT 5

A

- 4 A bird's beak
- 9 *Something squashed*
- 1 A ballet dancer
- 10 *Nothing at all*
- 7 *A map*
- 4 Sugar tongs
- 2 A moth
- 6 *Shoulders*
- 7 *Smoke*
- 4 A rabbit's head

B

- 3 A man's face
- 9 *A black mess*
- 1 Two men with arms folded
- 7 *An island*
- 1 A policeman
- 2 A bird flying
- 6 *A pelvis*
- 9 *Tar and soot*
- 4 Nutcrackers
- 10 *Nothing at all*

C

- 4 An alligator's head
- 10 *Nothing at all*
- 9 *A smashed body*
- 1 A fan dancer
- 7 *An X-ray picture*
- 4 Legs
- 2 A bat or butterfly
- 6 *Lungs and chest*
- 9 *Black clouds*
- 4 A pair of pliers

INKBLOT 6

A

- 3 Two kings' heads . . .
- 7 *An X-ray picture*
- 6 *Parts of the body*
- 3 A totem pole
- 3 A fur rug
- 9 *Mud and water*
- 4 A polished post
- 10 *Nothing at all*
- 2 A turtle
- 9 *A landslide*

B

- 2 A dragonfly
- 6 *The spinal column*
- 4 A cat's whiskers
- 6 *Male and female organs*
- 3 An animal skin
- 9 *Dirty water*
- 3 A sceptre
- 4 A snake's head
- 10 *Nothing at all*
- 9 *A spattered mess*

C

- 2 A butterfly at the top
- 7 *An X-ray of the spine*
- 4 Feathers at the top
- 3 A bear skin
- 7 *A leaf*
- 4 A table leg
- 10 *Nothing at all*
- 9 *Gushing oil*
- 1 A little man
- 6 *Part of the body*

(Continued on next page)

INKBLOT 7

A

- 7 *Smoke*
- 1 Two women talking
- 6 *Parts of the body*
- 2 *Animals*
- 10 *Nothing at all*
- 5 A white chandelier
- 9 *Burning fragments*
- 4 Lambs' tails
- 7 *An X-ray picture*
- 3 Bookends

B

- 3 Men's faces with big noses
- 2 A butterfly at the bottom
- 9 *Dirt from the gutter*
- 2 Scotties
- 6 *A pelvis*
- 1 Indians with feathered caps
- 10 *Nothing at all*
- 7 *Clouds*
- 7 *An X-ray of part of the body*
- 3 A necklace

C

- 1 Children playing
- 6 *The lower part of the body*
- 7 *Fog or mist*
- 10 *Nothing at all*
- 7 *A squashed frog*
- 3 Statues
- 9 *A gray mess*
- 2 A moth
- 2 Dogs playing
- 5 A white lamp

INKBLOT 8

A

- 3 An orange or pink butterfly
- 6 *Shoulders, lungs, and stomach*
- 10 *Nothing at all*
- 9 *Just colors*
- 3 An emblem
- 3 A pretty flower
- 8 *Heaven and Hell*
- 3 Two blue cushions
- 2 Two bears climbing
- 7 *Colored clouds*

B

- 3 Flowers and leaves
- 7 *An X-ray picture*
- 9 *Colored blobs*
- 3 A horseshoe crab
- 10 *Nothing at all*
- 3 Blue flags
- 2 Two animals climbing
- 3 A colored coat of arms
- 8 *Fire and ice*
- 6 *Parts of the body*

C

- 3 A Christmas tree
- 8 *A medical picture*
- 2 Frogs' heads
- 8 *Life and Death*
- 3 A mountain at the top
- 3 A design for wallpaper
- 8 *Inside the mouth*
- 2 Two beavers walking . . .
- 10 *Nothing at all*
- 9 *Colored ink splashed on paper*

INKBLOT 9

A

- 3 Sea horses
- 9 *Just spilt paint*
- 3 Flowers
- 6 *Parts of the body*
- 8 *Smoke and flames*
- 2 Deer or horns of deer
- 10 *Nothing at all*
- 1 Two witches
- 8 *Bloody clouds*
- 3 A candle

B

- 10 *Nothing at all*
- 3 A pink jacket
- 9 *Just colors*
- 3 Tropical plants
- 6 *The stomach and intestines*
- 8 *A forest fire*
- 2 An animal's head on the side
- 1 Two gnomes
- 8 *Bloody hands*
- 3 A fountain

C

- 3 A tropical flower or orchid
- 3 Lobsters
- 6 *The inside of a person*
- 8 *An explosion*
- 3 Men's faces on the sides
- 10 *Nothing at all*
- 1 Two Santa Clauses
- 8 *Storm clouds at sunset*
- 3 A violin
- 9 *Messy colors*

INKBLOT 10

A

- 1 Two people
- 8 *Spilt paint*
- 3 A Chinese print
- 7 *An X-ray picture*
- 9 *Just colored ink spots*
- 2 Spiders, caterpillars, insects
- 6 *Parts of my insides*
- 3 A colored map of California
- 10 *Nothing at all*
- 3 A flower garden

B

- 3 Undersea pictures
- 2 Two little dogs sitting up
- 6 *Stomach and intestines*
- 9 *A lot of colors*
- 8 *A medical picture*
- 3 A design for wallpaper
- 8 *A child's painting*
- 1 Two ladies holding hands
- 10 *Nothing at all*
- 2 Lots of animals running around

C

- 3 A blue flower
- 8 *Colored ink*
- 3 A picture of spring or fall
- 6 *Parts of the body*
- 9 *Just colors*
- 2 Octopus and crabs
- 6 *Bones*
- 3 Coral and seaweed
- 3 Flowers
- 10 *Nothing at all*

*Explanation of Numerical Values Assigned to Answers
in Terms of Rorschach Scoring*

- #1 Human movement responses (Rorschach's M).
- #2 Animal responses, either with or without movement, including many "populars."
- #3 Good form answers given relatively frequently by unselected normals. In the colored cards #3 stands for Form-Color responses. (FC)
- #4 Answer located in the small detail area of the card.
- #5 White space answers.
- #6 Anatomical answers with bad form. (F—)
- #7 X-ray responses, clouds, and a few vague formless whole answers (leaf on Card VI, animal skin on Card II, etc.)
- #8 Answer indicating an explosive response to color. (CF or C answers)
- #9 Completely formless answers in uncolored cards, including those indicative of unpleasant feeling tone in looking at the card (nightmare, etc.) In the colored cards #9 stands for an evasion of the response, or a mere statement of the colors on the blot.
- #10 Failure, the "nothing at all" answer.

PART IV

Lists of the Content of Responses

THE FIGURES which appear in the content lists may be explained briefly here. For example, Card I gave rise to 632 responses in the college age group ($R = 632$). Of these, 284 were whole responses ($W = 284$) which constitutes 45% of the total number of responses to that card ($W = 45\%$). The first category, Anatomy (animal), in the college age group constituted 2% of the 284 *W* answers and in the psychotics and psychopaths 3% of the 71 *W* answers, and so on. Thus the relative frequency with which any specific content category occurred in any group can be seen by a comparison of these percentages. Anatomy (human) occurred in 30% of the *W* responses in the college age group but in only 2% of the prison inmates. Animal responses, also *W* responses to Card I, occurred in 84% of the responses given by prison inmates to that location, but only in 35% of the responses given by the adults, and so on.

Since this is apt to be confusing at first glance we may take another example, D2 on page 266. In the first column to the left, the college age group, we find forty such responses. ($D2 = 40$.) The D2 percent, that is, the frequency with which D2, *as a location*, was selected, is 6% of the total number of answers given to Card 1. ($D2\% = 6$.) These 40 responses are distributed between six content categories. Anatomy (human), Animals, Human beings, Human details, Natural objects and Objects. The Animal responses account for 50% of these responses. In the second and third column it will be seen that Animal responses account for 44% and 57% respectively of the answers to this location. The psychotic patients, in column 4, however, use this area less frequently, ($D2\% = 2$) and when using it employ only one content category, Human beings.

We can therefore ask several questions about any given location in any of the cards. Is it utilized frequently or not? Is it utilized with equal frequency by all four groups of subjects? When utilized, are the responses apt to be drawn from a variety of content categories, or from few? Do all four groups of subjects show the same variety of content?

CARD I

COLLEGE AGE R = 632	ADULTS R = 116	W	PRISON INMATES R = 92	PSYCHOTICS AND PSYCHOPATHS R = 108
W = 284 W% = 45	W = 48 W% = 41		W = 55 W% = 60	W = 71 W% = 66
<i>Anatomy (animal)</i> 2%	.....		.....	<i>Anatomy (animal)</i> 3%
anatomy of bird				brain of mammal
skeleton of bat				skull of steer
skull of dogfish				
spine of animal				
<i>Anatomy (human)</i> 30%	<i>Anatomy (human)</i> 17%		<i>Anatomy (human)</i> 2%	<i>Anatomy (human)</i> 4%
axis vertebra	body (part of)		pelvis	pelvic girdle
backbone	pelvis			skeleton
bone	ribs			
bony structure	skeleton of hips			
costal cartilages	spine			
hipbone	vertebra			
lungs				
nerve slice				
pectoral girdle				
pelvic bone				
pelvic girdle				
pelvis				
pubis				
ribs				
sacral vertebra				
sacrum				
skeletal system				
skeleton				
spinal column				
sternum				
thorax				
vertebra				
<i>Animals</i> 46%	<i>Animals</i> 35%		<i>Animals</i> 84%	<i>Animals</i> 55%
(<i>Winged</i>)	(<i>Winged</i>)		(<i>Winged</i>)	(<i>Winged</i>)
(40%)	(35%)		(73%)	(42%)
bat (22%)*	bat		bat	*bat
beetle	beetle		beetle	beetle
bird	butterfly		bug	bird
bug	eagle		butterfly	butterfly
butterfly (8%)	insect		insect	eagle
dragon			moth	falcon
eagle (and N.R.A.)				insect
insect				moth
moth				
pelican				
penguin				
phenix				
pigeon				
vampire				

* In certain cases additional percentages have been given. These have been added when any one item was given with unusual frequency in that particular location. For example, "bat" in this case constituted 22% of all the whole answers given to Card I.

CARD I-W—Continued

(Other than winged) (6%)		(Other than winged) (11%)		(Other than winged) (13%)	
animal		crab		bacteria	
cockroach		elephants		cat	
crab		spider		crab	
crayfish		turtle		sea animal	
frog				squirrel	
mammal				water mammal	
reptile					
spider					
turtle					
<i>Animal details</i>				<i>Animal details</i>	
3%				1%	
antlers of moose				face of cat	
face of fox					
head of dog					
head of dragon					
head of ox					
head of wolf					
<i>Animal objects</i>		<i>Animal objects</i>		<i>Animal objects</i>	
.7%		2%		7%	
shell		coral		animal skin	
sponge				fossil	
				sponge	
<i>Fire, etc.</i>					
.3%					
exploded object					
<i>Human beings</i>		<i>Human beings</i>		<i>Human beings</i>	
4%		2%		6%	
angels		Santa Claus		bat man	
angels and devil				cronies	
circus performer				people	
dancer				witches	
diver hitting water					
ghosts					
goblins					
god					
King of the Mountain					
masked men and pris-					
oner					
parachute troopist					
<i>Maps, etc.</i>		<i>Maps, etc.</i>		<i>Maps, etc.</i>	
1%		4%		3%	
map		map		map	
photograph of island		relief map			
<i>Natural objects</i>		<i>Natural objects</i>		<i>Natural objects</i>	
1%		8%		3%	
iceberg		cloud formation		silica	
rock		crystal		silver deposit	
		moon spot			
		rocky gorge			

CARD I-W—Continued

<i>Objects</i> 10%	<i>Objects</i> 27%	<i>Objects</i> 7%	<i>Objects</i> 14%
airplane blouse bomber crest emblem insignia kettle mask (devil's) paper doll plane (shadow) steel	bomber coat of arms crown emblem glider heraldic symbol submarine	airplane crest gargoyle paper (torn)	airplane coat of arms mask mask of cat shield totem pole vase
<i>Plants, etc.</i> 1%	.....	.....	<i>Plants, etc.</i> 3%
fungus growth leaf pansy			leaf marine plant life
<i>X-ray</i> .7%	<i>X-ray</i> 6%	<i>X-ray</i> 2%	<i>X-ray</i> 1%
x-ray x-ray of bat	x-ray x-ray of pelvis	x-ray	x-ray

W'

$W^1 = 38$ $W^1\% = 6$	$W' = 4$ $W'\% = 3$	$W' = 4$ $W'\% = 4$	$W' = 3$ $W'\% = 3$
.....	.....	.....	<i>Anatomy (animal)</i> 33% vertebra of fish
<i>Anatomy (human)</i> 50% "anatomy" (part of) bone clavicle pelvic girdle pubis ribs sacrum spinal column sternum and vertebra vertebra	<i>Anatomy (human)</i> 100% pelvis pelvis and vertebra skeleton of neck vertebra	<i>Anatomy (human)</i> 50% spinal column	<i>Anatomy (human)</i> 67% coccyx bone pelvic bone
<i>Animals</i> 26% (<i>Winged</i>) (16%) bat bird eagle insect winged animal	.....	<i>Animals</i> 50% (<i>Winged</i>) (25%) butterfly	.....

CARD I-W'—Continued

(Other than winged) (11%)		(Other than winged) (25%)	
crab		crab	
pigs			
ray fish			
<i>Human beings</i>	.....	.....	.....
11%			
children in canoe			
figures			
ghosts			
persons			
<i>Natural objects</i>	.....	.....	.....
3%			
mountain crag			
<i>Objects</i>	.....	.....	.....
5%			
emblem			
<i>Sex</i>	.....	.....	.....
3%			
vagina			
<i>X-ray</i>	.....	.....	.....
3%			
x-ray of body			

WS

WS=41 WS%= 6		WS=5 WS%=4		WS=3 WS%=3		WS=2 WS%=2	
<i>Anatomy (human)</i>	.....			.....		.....
2%							
part of the body							
<i>Animals</i>	.....			<i>Animals</i>	.....	
5%				33%			
(Winged)				(Winged)			
(5%)				(33%)			
bat				bat			
phenix							
<i>Animal details</i>	.....	<i>Animal details</i>	.....	.....		<i>Animal details</i>	.....
29%		40%				50%	
face of cat		head of bull				face of cat	
face of fox		head of lynx					
face of green-eyed							
monster							
head of cat							

CARD I-WS—Continued

<i>Human details</i> 5%	<i>Human details</i> 20%	.....	<i>Human details</i> 50%
face of heathen god	grinning face		laughing face
face of Satan			
<i>Maps, etc.</i> 2%	.....	.....	.....
map			
<i>Natural objects</i> 12%	.....	.....	.....
avalanche			
cave (entrance)			
cave and high cliff			
hills and lakes			
hills and islands			
<i>Objects</i> 44%	<i>Objects</i> 40%	<i>Objects</i> 67%	.....
Hallowe'en cat	Hallowe'en cat	mask	
Hallowe'en lantern	jack-o'-lantern		
Hallowe'en pumpkin			
jack-o'-lantern			
mask			

W'S

W'S=6 W'S%=.9	W'S=1 W'S%=1
<i>Animal details</i> 33%	<i>Animal details</i> 100%		
face of cat	head of cat		
<i>Objects</i> 66%	.....	
Hallowe'en cat			
mask			
mask (Japanese)			

D 1

D1=46 D1%=7	D1=8 D1%=7	D1=5 D1%=5	D1=4 D1%=4
<i>Anatomy (human)</i> 30%	<i>Anatomy (human)</i> 63%	.....	.....
bone	body		
chest wall	pelvis		
costal cartilages	vertebra		
costal margin			
nervous tract			
skull			
spinal cord			
sternum			
sternum and xiphoid			
process			

CARD I-D 1—Continued

<i>Animals</i> 20% (Winged) (11%)	<i>Animals</i> 13% (Winged) (13%)	<i>Animals</i> 60% (Winged) (40%)	<i>Animals</i> 25%
bee	beetle	beetle	
beetle		bug	
insect			
(Other than winged) (9%)	.....	(Other than winged) (20%)	(Other than winged) (25%)
ant		crayfish	crab
frog			
ogre (two headed)			
<i>Animal objects</i> 2%	.....	.....	.....
fossil			
<i>Human beings</i> 39%	<i>Human beings</i> 13%	<i>Human beings</i> 40%	<i>Human beings</i> 50%
bat man	lady	figures	ghosts
basketball player		men in cavern	women
comic-strip character			
ghost			
Ku-Klux Klan			
lady			
man			
person			
spirit			
spooks			
woman			
<i>Objects</i> 7%	<i>Objects</i> 13%	.....	<i>Objects</i> 25%
dress pattern	vase		hour glass
idol			
kettle			
<i>X-ray</i> 2%	.....	.....	.....
x-ray			

D 2

D2=40 D2%=6	D2=9 D2%=8	D2=7 D2%=8	D2=2 D2%=2
<i>Anatomy (human)</i> 3%	.....	.....	.....
sternum			
<i>Animals</i> 50% (Winged) (28%)	<i>Animals</i> 44% (Winged) (33%)	<i>Animals</i> 57% (Winged) (14%)	.....
bat	birds	eagle	
bird	robins		
vulture			
winged horse			

CARD I-D 2—Continued

(Other than winged) (23%)	(Other than winged) (11%)	(Other than winged) (43%)		
animal	bears	animal		
bear		fish		
frog		puppies		
ground hog				
rabbit				
seahorses				
.....	<i>Animal details</i>	.....	.....	.....
	33%			
	head of dog			
	wing of bat			
	wing of bird			
			
<i>Human beings</i>		<i>Human beings</i>	<i>Human beings</i>	
23%		28%	100%	
figures		men	dancer	
men		silhouette of man	women	
Santa Claus				
witches				
	<i>Human details</i>	.....	.....
<i>Human details</i>	<i>Human details</i>			
10%	11%			
face	profile of witch			
face of Sherlock				
Holmes				
.....	<i>Maps, etc.</i>	.....	.....
	11%			
<i>Natural objects</i>	relief map			
3%	.....		
clouds				
	<i>Objects</i>	<i>Objects</i>		
<i>Objects</i>	.....	14%	.....
13%		mask		
face of sphinx				
gargoyle				
keystone				
totem pole				
wings of airplane				

D 3

D3 = 4 D3% = .6	D3 = 1 D3% = 1
<i>Anatomy (human)</i>		<i>Anatomy (human)</i>	
75%		100%	
body		body	
pelvic bone			
sternum			
<i>Human details</i>			
25%			
torso of female			

CARD I—Continued

D 4

D4 = 7 D4% = 1		D4 = 5 D4% = 4		D4 = 1 D4% = 1		D4 = 4 D4% = 4	
<i>Anatomy (human)</i> 14%		.....		.....		.....
sternum and xiphoid process		.....		.....		<i>Animals</i> 25%	
.....		.....		.....		frog	
<i>Objects</i> 86%		<i>Objects</i> 100%		<i>Objects</i> 100%		<i>Objects</i> 75%	
bell		balloon bell violin		bell		bell	

D 5

D5 = 28 D5% = 4		D5 = 4 D5% = 3		D5 = 1 D5% = 1		D5 = 4 D5% = 4	
<i>Anatomy (human)</i> 4%		.....		.....		.....
ribs		.....		.....		.....
<i>Animals</i> 54%		<i>Animals</i> 75%		.....		.....
<i>(Winged)</i> (50%)		<i>(Winged)</i> (50%)		.....		.....
bat		bat		.....		.....
bird		birds		.....		.....
eagle		.....		.....		.....
fowl		.....		.....		.....
griffin		.....		.....		.....
<i>(Other than winged)</i> (4%)		<i>(Other than winged)</i> (25%)		.....		.....
fox		dog		.....		.....
<i>Animal details</i> 21%		.....		<i>Animal details</i> 100%		<i>Animal details</i> 75%	
beak of bird		.....		head of boar		head of dog	
head of bird		.....		.....		head of wolf	
head of dog		.....		.....		.....
wings of bat		.....		.....		.....
<i>Maps, etc.</i> 7%		<i>Maps, etc.</i> 25%		.....		<i>Maps, etc.</i> 25%	
map of England		topographical map		.....		map of island	
map of South America		.....		.....		.....
<i>Natural objects</i> 7%		.....		.....		.....
rock		.....		.....		.....

CARD I-D 5—Continued

<i>Objects</i> 7%	.....	.....
hat		
uniform		

D 6

D6=16 D6%= 3	D6=2 D6%=2	D6=3 D6%=3	D6=3 D6%=3
<i>Anatomy (human)</i> 13%	.....	.....	.....
anus			
vertebra			
<i>Animals</i> 63%	<i>Animals</i> 100%	<i>Animals</i> 67%	<i>Animals</i> 33%
(<i>Winged</i>) (31%)		(<i>Winged</i>) (33%)	
beetle		insect	
butterfly			
insect			
(<i>Other than winged</i>) (31%)	(<i>Other than winged</i>) (100%)	(<i>Other than winged</i>) (33%)	(<i>Other than winged</i>) (33%)
crab	crab	crab	crab
frog	monkey		
lobster			
<i>Animal details</i> 13%	.....	.....	.....
head of beetle			
.....	.....	.....	<i>Animal objects</i> 33%
			shell of crab
<i>Human beings</i> 13%	.....	.....	.....
figure			
persons			
.....	.....	<i>Objects</i> 33%	<i>Objects</i> 33%
		hour-glass	trap

D 7

D7=4 D7%= .6
<i>Animals</i> 25%		
(<i>Winged</i>) 25%		
bat		

CARD I-D 7—Continued

<i>Objects</i> 75%	
airplane	
emblem	
totem pole	

D 8

D8 = 8 D8% = 1	D8 = 4 D8% = 3	D8 = 3 D8% = 3	D8 = 1 D8% = .9
<i>Anatomy (human)</i> 25%	.....	.....	.....
pelvic girdle			
thoracic vertebra			
<i>Animals</i> 38%	<i>Animals</i> 75%	<i>Animals</i> 100%	<i>Animals</i> 100%
(<i>Winged</i>)	(<i>Winged</i>)	(<i>Winged</i>)	(<i>Winged</i>)
(38%)	(75%)	(67%)	(100%)
bat	bat	butterfly	butterfly
bird	eagle	(<i>Other than winged</i>)	
eagle		(33%)	
		moose	
<i>Animal details</i> 13%	.....	.....	.....
antlers			
<i>Objects</i> 25%	<i>Objects</i> 25%	.....	.....
air force pin	Viking headdress		
flying wings			

D 9

D9 = 4 D9% = .6	.....	.....	.....
<i>Anatomy (human)</i> 100%			
pelvis			
sacrum			
sacrum and coccyx			
bone			

D 10

D10 = 6 D10% = .9	D10 = 2 D10% = 2	.....	.....
<i>Animals</i> 67%	<i>Animals</i> 50%		
(<i>Winged</i>)	(<i>Winged</i>)		
(67%)	(50%)		
bat	gull		
bird			
eagle			

CARD I-D 10—Continued

.....	<i>Animal details</i> 50% wings	
<i>Objects</i> 33% airplane		

D 11

D11 = 21 D11% = 3	D11 = 3 D11% = 3	D11 = 1 D11% = 1	D11 = 7 D11% = 6
<i>Anatomy (human)</i> 14% attachment of ribs to chest ribs and intercostal spaces throat (infected)	.....	.....	<i>Anatomy (human)</i> 43% skeleton throat vertebra
<i>Animal details</i> 5% face of cat	.....	<i>Animal details</i> 100% face of lynx	.....
<i>Human details</i> 19% face face of devil	<i>Human details</i> 67% face grinning face of devil	.....	.....
<i>Natural objects</i> 10% high cliff and cave	.....	.....	<i>Natural objects</i> 29% geological forma- tion tunnel
<i>Objects</i> 48% Hallowe'en mask jack-o'-lantern mask of devil	<i>Objects</i> 33% jack-o'-lantern	.....	.....
.....	.....	.....	<i>Plants, etc.</i> 29% pumpkin
<i>X-ray</i> 5% x-ray			

d 1

d1 = 11 d1% = 2	d1 = 2 d1% = 2
<i>Animals</i> 18% (<i>Winged</i>) (9%) sea gull		

(Other than winged) (9%)		
shark		
<i>Animal details</i>	<i>Animal details</i>	
36%	100%	
beak of bird	horns of calf	
claws	wing	
wings		
<i>Maps, etc.</i>	
9%		
map of India		
<i>Natural objects</i>	
9%		
rock of Gibraltar		
<i>Objects</i>	
27%		
arrow		
bayonet		
weapon		
d 2		
d2 = 1
d2% = .1		
<i>Animal details</i>		
100%		
head of animal		
d 3		
d3 = 10	d3 = 4 d3 = 2
d3% = 2	d3% = 3	d3% = 2
<i>Animals</i>	<i>Animals</i>
30%	50%	
snakes	crayfish	
turtles	mice	
worms		
<i>Animal details</i>	<i>Animal details</i>
40%		50%
claws of crab		claws of crab
heads of eagles		
heads of snakes		
mouth of animal		
<i>human beings</i>
10%		
monks		
<i>Human details</i>	<i>Human details</i>	<i>Human details</i>
10%	50%	50%
thumbs	hands	hands
<i>Natural objects</i>
10%		
waves		

CARD I—Continued

d 4

d4=4 d4%=.6	d4=3 d4%=3	.....	d4=1 d4%=.9
<i>Animals</i> 25 % (<i>Winged</i>) (25 %)	<i>Animals</i> 67 % (<i>Winged</i>) (67 %)		.....
bird	bird		
<i>Animal details</i> 50 %	<i>Animal details</i> 33 %		<i>Animal details</i> 100 %
head of dog	head of boar		snout of bear
head of rat			
<i>Natural objects</i> 25 %	.....		.....
peak			

d 5

d5=3 d5%=.4	d5=2 d5%=2
<i>Anatomy (human)</i> 67 %	.....	
jugular notch			
tonsils			
<i>Animal details</i> 33 %	<i>Animal details</i> 50 %		
antennae	eyes of insect		
.....	<i>Human details</i> 50 %		
	fingers		

d 6

d6=4 d6%=.6
<i>Anatomy (human)</i> 50 %			
coccyx			
xiphoid process			
<i>Maps, etc.</i> 25 %			
geographical photo			
<i>Signs and symbols</i> 25 %			
Fascist symbol			

CARD I-de—Continued

<i>Natural objects</i> 33 % coastline	<i>Natural objects</i> 100 % shoreline with islands	.....	.....
di			
di = 3 di % = .4	.....	.....	.....
<i>Human beings</i> 67 % Old Man Winter Minute Man <i>Maps, etc.</i> 33 % geographical photograph	.....	.....	.....
dr			
dr = 27 dr % = 4	dr = 3 dr % = 3	dr = 2 dr % = 2	dr = 2 dr % = 2
<i>Anatomy (human)</i> 19 % scapula sternum vertebra	.....	.....	.....
<i>Animals</i> 33 % (Winged) (15 %)	<i>Animals</i> 33 % (Other than winged) (33 %)	<i>Animals</i> 100 % (Winged) (100 %)	<i>Animals</i> 50 % (Winged) (50 %)
bat	dog	eagle moth	butterfly
(Other than winged) (19 %)	(Other than winged) (33 %)	.....	.....
ant cat crab ray	.....	.....	.....
<i>Animal objects</i> 4 % sponge	.....	.....	.....
<i>Architecture</i> 4 % church	.....	.....	.....
<i>Maps, etc.</i> 11 % aerial view of mountain map of England map of South America	.....	.....	.....

CARD I-dr—Continued

<i>Natural objects</i> 7% island masses lava	<i>Natural Objects</i> 67% dirt rock	.....	.....
<i>Objects</i> 22% airplane face of sphinx jacket remnant of jacket shaving cream	.....	.....	<i>Objects</i> 50% camp stool
dr + S			
.....	dr + S = 1 dr + S% = .9	.....	.....
	<i>Human beings</i> 100% person		
S			
S = 3 S% = .4	.....	S = 1 S% = 1	.....
<i>Anatomy (human)</i> 33% scapula		<i>Anatomy (human)</i> 100% sinuses of skull	
<i>Human details</i> 33% eyes		.....
<i>Objects</i> 33% gun shot hole		.....

CARD II

COLLEGE AGE R = 540	ADULTS R = 105	W	PRISON INMATES R = 71	PSYCHOTICS AND PSYCHOPATHS R = 110
W = 156 W % = 29	W = 29 W % = 28		W = 26 W % = 37	W = 47 W % = 43
Anatomy (<i>animal</i>) .6% dissection of animal	.....		.....	.....
Anatomy (<i>human</i>) 5% cross section of spinal column cross section of spinal cord heart pelvic bone spinal column transverse section of heart	Anatomy (<i>human</i>) 7% pelvic bone vertebra		Anatomy (<i>human</i>) 8% spinal column throat	Anatomy (<i>human</i>) 6% bones, hammer and anvil organs skeleton
Animals 28% (<i>Winged</i>) (15%) bat bird butterfly fly insect kite moth water bug	Animals 3% 		Animals 50% (<i>Winged</i>) (12%) bug butterfly	Animals 26% (<i>Winged</i>) (6%) butterfly
(<i>Other than winged</i>) (13%) animals bears cats marine animals ray fish water flea	(<i>Other than winged</i>) (3%) bears		(<i>Other than winged</i>) (38%) bears elephants monkey rabbits	(<i>Other than winged</i>) (19%) bears crab elephants scotties
.....	Animal details 3% head of bear		.....	Animal details 2% face of baboon
.....	.....		.....	Animal objects 4% hide
.....	Architecture 3% oriental temple		.....	Architecture 2% bridge

CARD II-W—Continued

<i>Art</i>	.....	.....	.....
.6%			
water color painting			
<i>Color</i>	.....	.....	.....
1%			
(color description)			
(color naming)			
<i>Fire, etc.</i>	.....	.....	.....
2%			
eruption			
explosion			
fire and coal			
<i>Human beings</i>	<i>Human beings</i>	<i>Human beings</i>	<i>Human beings</i>
55%	79%	38%	43%
athletes	children	children	Buddha
Buddha	clowns	figures	children
children	girls	gnomes	clowns
Chinese	people	old men	drunkards
clowns	persons	people fighting	fire-gods
dancers	Punch and Judy	people kneeling	girls
fencers	Santa Claus	savages	"goons"
figures	twins	women	human creatures
ghosts	witches		men
girls	women		orchestra leader
Indians			people
men			people dancing
monks			priests
"Old Bill"			Punch and Judy
old maids			twins
orientals			witches
people			women
policemen			
priests			
rajahs			
Russians			
Santa Claus			
tumblers			
twins			
witches			
women			
<i>Human details</i>	.....	.....	.....
1%			
face			
painted face			
<i>Maps, etc.</i>	<i>Maps, etc.</i>	.....	<i>Maps, etc.</i>
.6%	3%		2%
anatomical slide	slide in zoology		map
<i>Natural objects</i>	.....	.....	<i>Natural objects</i>
1%			2%
clouds			gases
lava			

CARD II-W—Continued

<i>Objects</i> .6%	.....	<i>Objects</i> 4%	<i>Objects</i> 9%
cauldron		coat of arms	bellows crest generator sphinx
.....	.....	.....	<i>Plants, etc.</i> 2%
			anemone
<i>Sex</i> 2%	.....	.....	.....
female sex organs vagina and anus			
<i>Symbolism</i> .6%	.....	.....	.....
murder in coal bin			
<i>X-ray</i> .6%	.....	.....	<i>X-ray</i> 2%
x-ray			x-ray

W'

W' = 127 W' % = 24	W' = 10 W' % = 10	W' = 14 W' % = 20	W' = 13 W' % = 12
<i>Anatomy (embryo.)</i> .7%	.....	.....	.....
foetal pigs			
<i>Anatomy (human)</i> 3%	.....	.....	<i>Anatomy (human)</i> 8%
bones lungs pelvis			brain
<i>Animals</i> 67 % (Winged) (.7 %)	<i>Animals</i> 60 % (Winged) (20 %)	<i>Animals</i> 86 %	<i>Animals</i> 46 %
birds	bat Pegasus		
(Other than winged) (66 %)	(Other than winged) (40 %)	(Other than winged) (86 %)	(Other than winged) (46 %)
animals bears (23 %) beasts bisons buffalos calves cats dogs (18 %) elephants gorillas rabbits	animal bears elephants	ape bears dogs elephant small animal	bears dogs scotties

CARD II-W'—Continued

<i>Animal details</i>		<i>Animal details</i>	
5%		8%	
heads of bears		head of animal	
heads of bulls			
heads of calves			
heads of dogs			
<i>Animal objects</i>			
2%			
bear rug			
bear skin			
<i>Color</i>			
.7%			
red spot and gray spot			
<i>Fire, etc.</i>			
2%			
bomb exploding			
explosion of rock			
<i>Human beings</i>		<i>Human beings</i>	
10%		7%	
dancers	<i>Human beings</i> 30%	clowns	<i>Human beings</i> 15%
firemen	half man-half		clowns
girls	beast		women
men	man-horse		
people	two men		
<i>Maps, etc.</i>			
2%			
map			
map of Austria			
map of Great Britain			
<i>Natural objects</i>		<i>Natural objects</i>	
2%		8%	
land		graves (mounds)	
rock			
<i>Objects</i>		<i>Objects</i>	
4%		7%	
boots	<i>Objects</i> 10%	dress hat	<i>Objects</i> 15%
fireplace	incense		dress design
Japanese lantern			ink
machinery			
wig			
<i>Plants, etc.</i>			
.7%			
plant			
<i>Sex</i>			
.7%			
vagina			

CARD II—Continued

W S			
WS=7 WS%=1	.....	WS=2 WS%=3%	.....
<i>Animals</i> 43% (<i>Winged</i>) (43%) butterfly insect winged animal			
<i>Architecture</i> 29% castle and impressive walk staircase			
<i>Objects</i> 29% breast plate paper		<i>Objects</i> 50% lamp in darkness <i>X-ray</i> 50% x-ray	
W'S			
W'S=4 W'S%=.7	.....		.....
<i>Architecture</i> 50% castle with surrounding territory <i>Natural objects</i> 50% smoke pattern woods and lake			
D 1			
D1=36 D1%=7	D1=8 D1%=8	D1=1 D1%=1	D1=9 D1%=8
<i>Anatomy</i> 11% blood	.....	.....	<i>Anatomy</i> 33% blood
<i>Animals</i> 39% (<i>Winged</i>) (36%) butterfly insect moth	<i>Animals</i> 25% (<i>Winged</i>) (25%) bug butterfly	.....	<i>Animals</i> 22% (<i>Winged</i>) (11%) butterfly

CARD II-D 1—Continued

(Other than winged) (3%)		(Other than winged) (11%)	
crab		crab	
<i>Animal details</i> 6%	.....	.....	.....
tail of fish			
tail of insect			
<i>Fire, etc.</i> 31%	<i>Fire, etc.</i> 38%	<i>Fire, etc.</i> 100%	<i>Fire, etc.</i> 22%
explosion	fire	explosion	explosion
fire	flames		fire
flames			
volcanic eruption			
volcano			
<i>Human beings</i> 3%	.....	.....	.....
people			
.....	<i>Human details</i> 25%	.....	.....
	feet (injured)		
	leg (mutilated)		
<i>Natural objects</i> 3%	<i>Natural objects</i> 13%	.....	.....
comet (disintegrated)	clouds		
<i>Objects</i> 8%	.....	.....	<i>Objects</i> 11%
bullet			red shoes
fan			
ink			
.....	.....	.....	<i>Sex</i> 11%
			bleeding uterus

D 2

D2 = 71 D2% = 13	D2 = 12 D2% = 11	D2 = 7 D2% = 10	D2 = 15 D2% = 14
<i>Anatomy (human)</i> 6%	<i>Anatomy</i> 8%	<i>Anatomy</i> 14%	<i>Anatomy</i> 7%
blood	blood	blood	blood
blood vessels			
chromosome spindle			
sacrum			
<i>Animals</i> 23% (Winged) (6%)	<i>Animals</i> 8%	<i>Animals</i> 29% (Winged) (14%)	<i>Animals</i> 20% (Winged) (7%)
butterfly		birds	insect
cock			
rooster			

CARD II-D 2—Continued

(Other than winged) (17%)	(Other than winged) (8%)	(Other than winged) (14%)	(Other than winged) (13%)
animal lion rabbit snake worm	seals	dogs	chipmunk marine animal
<i>Animal details</i> 1%	.....	<i>Animal details</i> 29%	.....
face of kitten		head of chicken profile of ape	
<i>Animal objects</i> 1%	<i>Animal objects</i> 8%	.....	.....
shell	sea shell		
<i>Architecture</i> 1%	.....	.....	.....
stairway			
<i>Color</i> 3%	.....	.....	.....
(color naming)			
<i>Fire, etc.</i> 3%	.....	.....	<i>Fire, etc.</i> 27%
fire			bursting bombs flame
<i>Human beings</i> 13%	<i>Human beings</i> 17%	.....	<i>Human beings</i> 7%
ghosts girls masqueraders men men (headless) monks Punch and Judy	Santa Claus sisters at prayer		people
<i>Human details</i> 28%	<i>Human details</i> 33%	<i>Human details</i> 14%	<i>Human details</i> 13%
faces hair heads noses thumbs	eyes of clown face faces of negroes tooth	face	hair faces
<i>Maps, etc.</i> 6%	.....	.....	<i>Maps, etc.</i> 7%
map of England map of Ireland			map of islands
<i>Natural objects</i> 1%	.....	.....	<i>Natural objects</i> 13%
water			colored minerals ripples

CARD II-D 2—Continued

<i>Objects</i> 11%	<i>Objects</i> 25%	<i>Objects</i> 14%	<i>Objects</i> 7%
balloon	hat	lipstick	meat
lamp bulb	head gear of fire-		
lipstick	man		
mask	pork chop		
meat			
shoes			
silk fabric			
<i>Plants, etc.</i> 1%	.....	.....	.....
leaves			
<i>Symbolism</i> 1%	.....	.....	.....
a phenomenon			

D 3

.....	D3 = 1 D3% = 1	.....	D3 = 3 D3% = 3
.....			<i>Animals</i> 67%
			buffalo
			bull
	<i>Maps, etc.</i> 100%		.....
	map of Minnesota		
.....			<i>Objects</i> 33%
			piece of liver

D 4

D4 = 1 D4% = .1	.....	.....	D4 = 1 D4% = .9
<i>Animal details</i> 100%			<i>Animal details</i> 100%
head of lamb			head of ape

d 1

d1 = 23 d1% = 4	d1 = 8 d1% = 8	d1 = 1 d1% = 1	d1 = 2 d1 = 2
<i>Anatomy (human)</i> 9%	.....	.....	.....
excretory organs			
sternum			
<i>Animal details</i> 4%	.....	.....	<i>Animal details</i> 50%
paws of animal			hoof of deer

CARD II-d 1—Continued

<i>Architecture</i> 22%	<i>Architecture</i> 25%	<i>Architecture</i> 100%	.....
building	Hindu temple	tomb	
castle	tower		
church			
staircase			
stairway			
<i>Fire, etc.</i> 4%	.....	.....	.....
sky rocket (exploded)			
<i>Human beings</i> 9%	.....	.....	.....
children			
Tibetans			
<i>Human details</i> 4%	<i>Human details</i> 13%	.....	.....
head of Punch	hands		
<i>Natural objects</i> 4%	.....	.....	.....
mountain			
<i>Objects</i> 39%	<i>Objects</i> 38%	.....	<i>Objects</i> 50%
altar	arrowhead		plug
arrowhead	pen point		
book end satyrs	spearhead		
bullet			
fence			
fire extinguisher			
helmet			
.....	<i>Plants, etc.</i> 25%	.....	.....
	pine cone		
	tree		
<i>Sex</i> 4%	.....	.....	.....
sex organs			

d 2

d2=3 d2%=.5	d2=1 d2%=1	.....	.....
<i>Animal details</i> 67%	<i>Animal details</i> 100%		
head of rooster	face of baboon		
paw of cat			
<i>Human details</i> 33%	.....	
head of man			

CARD II—Continued

d 3

d3 = 1 d3% = .1	.....	.....
<i>Human details</i> 100% head of Old Man of Mountain		

d 4

d4 = 11 d4% = 2	d4 = 12 d4% = 11	.....	d4 = 5 d4% = 5
.....	.....		<i>Animals</i> 20% goat
.....	<i>Animal details</i> 17% face of monkey		<i>Animal details</i> 40% face of baboon face of monkey
<i>Human details</i> 100% face of man head of George Washington head of Indian mouth (open) of Father Time	<i>Human details</i> 75% face face of devil face of toothless old person face of witch face with Jewish nose		<i>Human details</i> 40% heads of negroes
.....	<i>Objects</i> 8% degree hood		.....

d 2 + d 3

d2+d3 = 1 d2+d3% = .1	d2+d3 = 1 d2+d3% = 1	.....	.....
<i>Animals</i> 100% monkey	.....	
.....	<i>Maps, etc.</i> 100% map		

CARD II—Continued

d1+S			
d1+S=7 d1+S%=1		.....	.....
<i>Architecture</i> 86% chapel with walk church with long walk corridor leading to stairway palace and steps shrine and steps stairway and shrine <i>Objects</i> 14% bed with canopy			
dd			
.....	dd=1 dd%=1	.....	.....
<i>Human details</i> 100% mouth of negro			
de			
de=3 de%=.5	.....	de=6 de%=8	de=1 de%=.9
<i>Animal details</i> 33% bill of pelican <i>Human details</i> 33% head of woman <i>Natural objects</i> 33% mountain scene		<i>Animal details</i> 33% head of animal profile of ape <i>Human details</i> 50% profile <i>Natural objects</i> 17% coastline <

CARD II—Continued

dr			
dr = 13 dr % = 2	dr = 4 dr % = 4	dr = 1 dr % = 1	.....
<i>Anatomy (human)</i> 8 % microscopic cell	.....	.....
<i>Anatomy (embryo.)</i> 8 % neural crest of embryo	.....	.....
<i>Animals</i> 15 % (<i>Winged</i>) (8 %) butterfly (<i>Other than winged</i>) (8 %) worm	.....	.....
<i>Animal details</i> 8 % head of animal with sharp beak	<i>Animal details</i> 25 % head of bear	.....
<i>Fire, etc.</i> 15 % fire and coal furnace	.....	<i>Fire, etc.</i> 100 % furnace	
<i>Human details</i> 15 % head of Indian	<i>Human details</i> 25 % face of old man	.....
<i>Maps, etc.</i> 15 % map slide .....	.....	.....
	<i>Natural objects</i> 25 % clouds	.....
<i>Objects</i> 15 % nipple nut-cracker	<i>Objects</i> 25 % wig	.....
dr + S			
dr + S = 8 dr + S % = 1	dr + S = 2 dr + S % = 2	dr + S = 3 dr + S % = 4	.....
.....	.....	<i>Architecture</i> 33 % gate in Paris	

CARD II-dr + S—Continued

<i>Fire, etc.</i> 13%	.....	<i>Fire, etc.</i> 67%
explosion		combustion stove opening
<i>Natural objects</i> 63%	.....	.....
calcium structure and water		
cave		
crater		
passage		
tunnel entrance		
<i>Objects</i> 25%		<i>Objects</i> 100%
flashlight		lamp on table
mask		sacred bowl on pedestal

S=67 S%=12	S=15 S%=14	S=10 S%=14	S=14 S%=13
<i>Anatomy (human)</i> 6% opening of thorax spinal column vertebral canal vertebral foramen
<i>Animals</i> 15% (Winged) (4%) bird moth (Other than winged) (10%) fish ray-fish	<i>Animals</i> 29% (Other than winged) (29%) ray-fish squid skate
.....	<i>Animal objects</i> 7% shell
<i>Architecture</i> 6% castle and valley church steeple with slanting roof	<i>Architecture</i> 7% end of house	<i>Architecture</i> 7% bridge
<i>Human beings</i> 1% ballet dancer

CARD II-S—Continued

<i>Natural objects</i> 6%	<i>Natural objects</i> 7%	.....	<i>Natural objects</i> 14%
lake	pond		lake
river			tunnel
<i>Objects</i> 64%	<i>Objects</i> 80%	<i>Objects</i> 100%	<i>Objects</i> 50%
ace of spades	lamp	chandelier	bellows
bellows	lamp shade	generator	cylinder
birthday cake	light globe	geometric figure	generator
bulb	molding	lamp	keyhole
bullet	top	top	lamp
bullet hole		warship	miter
centrifuge			wig
drill			
gear			
head on metal lathe			
incense burner			
ink bottle			
jar			
lamp			
light			
parachute			
ship			
spade			
spar in tent			
spearhead			
top			
<i>Plants, etc.</i> 1%	.....	.....	.....
beet			

CARD III

COLLEGE AGE R = 592	ADULTS R = 122	W	PRISON INMATES R = 70	PSYCHOTICS AND PSYCHOPATHS R = 97
W = 49 W % = 8	W = 13 W % = 11		W = 20 W % = 29	W = 30 W % = 31
<i>Anatomy (animal)</i> 2% dissected frog	.....		.....	.....
<i>Anatomy (human)</i> 8% abdomen kidneys thoracic cavity vertebra	<i>Anatomy (human)</i> 8% pelvis		<i>Anatomy (human)</i> 5% pelvis	.....
<i>Animals</i> 14% (<i>Winged</i>) (6%) bee (under microscope) butterfly (under microscope) fly (under microscope) (<i>Other than winged</i>) (8%) crab frog	.....		<i>Animals</i> 20% (<i>Winged</i>) (20%) birds bug butterfly crows	<i>Animals</i> 10% (<i>Winged</i>) (7%) butterfly (<i>Other than winged</i>) (3%) monkey
<i>Animal details</i> 2% mandible of grass- hopper	.....		.....	.....
<i>Art</i> 4% design painting	.....		.....	<i>Art</i> 7% painting
<i>Human beings</i> 59% butlers cannibals cooks diplomats fellows figures Frenchmen house boys manikins men	<i>Human beings</i> 77% aborigines boys cannibals "darkies" men negroes people porters twins		<i>Human beings</i> 70% aborigines Andy Gump cartoon forms comedians debaters hepcats from Harlem men dancing men lifting men reaching	<i>Human beings</i> 80% ballet performance black men boys pulling Bim and Gump gnomes human figures men natives negroes people "stuffed shirts"

CARD III-W—Continued

people				men waving hands	
spiritualists				semi-humans	
valets				choosing food	
waiters				Ubangis	
women				Victorian	
				characters	
				women	
<i>Human details</i>	.....			.....	.....
2%					
faces of women					
<i>Objects</i>		<i>Objects</i>		<i>Objects</i>	<i>Objects</i>
6%		8%		5%	3%
Hallowe'en mask		grotesque mask		governor	coat of arms
ornament					
weapon made of rock				.....	.....
<i>X-ray</i>		<i>X-ray</i>			
2%		8%			
x-ray of cheekbone		x-ray			

W'

W' = 258 W' % = 44	W' = 26 W' % = 21	W' = 24 W' % = 34	W' = 20 W' % = 21
<i>Anatomy (animal)</i>	.....	.....	<i>Anatomy (animal)</i>
.3%			5%
ribs and head of animal			skeleton of bird
<i>Anatomy (human)</i>	.....	<i>Anatomy</i>	<i>Anatomy (human)</i>
2%		4%	5%
body		bones	skeleton of person
pelvic girdle			
thorax			
<i>Animals</i>	<i>Animals</i>	<i>Animals</i>	<i>Animals</i>
19%	4%	13%	20%
(<i>Winged</i>)	(<i>Winged</i>)	(<i>Winged</i>)	(<i>Winged</i>)
(15%)	(4%)	(13%)	(5%)
birds	birds	birds	birds
chickens		chicks	
cocks		Donald Duck	
ducks			
hens			
jays			
penguins			
roosters			
wasps			
(<i>Other than winged</i>)	.....	.....	(<i>Other than winged</i>)
(4%)			(15%)
animals			animals
crab			frogs
dogs			sheep
frog			
mice			
monkeys			
spider			

CARD III-W'—Continued

<i>Animal details</i> .7%		<i>Animal details</i> 5%	
face of animal		jaws of reptile	
jaws of beetle			
<i>Human beings</i> 75%		<i>Human beings</i> 83%	
acrobats		Africans	
Andy Gump		colored boys	
athletes		freaks	
bojangles of Harlem		girls	
boxers		ghosts	
boys		human beings	
bull fighters		Indians	
butlers		marionettes	
cafe society		men dancing	
cannibals		men lifting	
characters		men playing	
children		old men playing	
cooks			
courtesans			
dancers			
dandies			
darkies			
devils			
diplomats			
doctors			
Egyptians			
English earls			
figures			
footmen			
Fred Astaire			
gentlemen			
girls			
horsemen			
imps			
Jiminy Cricket			
lackeys			
ladies			
men			
negroes			
servants			
skaters			
South Sea Islanders			
statesmen			
waiters			
women			
<i>Objects</i> 2%		<i>Objects</i> 8%	
bowl		copper dish	
carvings of wood		jar	
mask			
ornament			
vase			
		<i>Objects</i> 15%	
		bowl	
		coat and tie	
		vase	

CARD III-W'—Continued

Sex .3%	
vagina	
Signs and Symbols .3%	
"M"	

W'S

.....	W'S = 1 W'S% = .8	.....	.....
	Objects 100%		
	tuxedo and tie		

D 1

D1 = 101 D1 % = 17	D1 = 27 D1 % = 22	D1 = 15 D1 % = 21	D1 = 15 D1 + = 15
<i>Anatomy (human)</i> 13%	<i>Anatomy (human)</i> 11%	.....	<i>Anatomy (human)</i> 13%
adrenals	lungs		blood
blood	vertebra		pelvis
bone			
kidneys			
lobes of brain			
pelvic girdle			
scapula			
vertebra			
<i>Animals</i> 51%	<i>Animals</i> 63%	<i>Animals</i> 87%	<i>Animals</i> 60%
(Winged)	(Winged)	(Winged)	(Winged)
(50%)	(63%)	(87%)	(53%)
butterfly (48%)	butterfly	butterfly	butterfly
moth			butterfly, bloody
(Other than winged)			(Other than winged)
(2%)			(7%)
lions			crab
seahorses			
<i>Architecture</i> 2%	.....	.....	.....
bridge spanning chasm			
corridor leading to			
door			
<i>Human beings</i> .9%	.....	.....	.....
two buxom ladies			
<i>Objects</i> 31%	<i>Objects</i> 26%	<i>Objects</i> 13%	<i>Objects</i> 27%
bow	bow tie	bow tie	loud speaker
bow tie } (26%)	red bow		meat

CARD III-D 1—Continued

eye pad			object getting
pipes			away
sailboat			tie
tongs			
wallpaper			
<i>Plants, etc.</i>	.....	.....	.....
2%			
tomatoes			

D 2

D2 = 91 D2% = 15	D2 = 14 D2% = 11	D2 = 7 D2% = 10	D2 = 15 D2% = 15
<i>Anatomy (embryo.)</i> 2%	.....	.....	.....
embryo			
<i>Anatomy (human)</i> 16%	<i>Anatomy (human)</i> 29%	<i>Anatomy (human)</i> 14%	<i>Anatomy (human)</i> 27%
blood	glands	stomach	blood
bone	kidneys		lungs
kidney	lungs		kidneys
oesophagus			
skeleton of feet			
stomach			
stomach and oesophagus			
sweat glands			
<i>Animals</i> 36%	<i>Animals</i> 50%	<i>Animals</i> 29%	<i>Animals</i> 47%
(Winged)	(Winged)		(Winged)
(13%)	(29%)		(20%)
bat	birds		butterfly
bird	chicks		wasps
chicken	parrot		
cock			
parrot			
(Other than winged)	(Other than winged)	(Other than winged)	(Other than winged)
(23%)	(21%)	(29%)	(27%)
animal	animal	monkey	chipmunks
cat	rabbit	rabbit	moose
cobra	seahorse		seahorses
crab			shrimps
dragon			
fish			
monkey			
seahorses			
snails			
squirrels			
<i>Animal details</i> 2%	.....	.....	.....
head of animal			
tail of fish			

CARD III-D 2—Continued

<i>Fire, etc.</i> 4%	.....	.....	<i>Fire, etc.</i> 13%
fire			fire
fiery atmosphere			
<i>Human beings</i> 25%	.....	<i>Human beings</i> 14%	<i>Human beings</i> 7%
athletes		girls falling	men
clowns			
devils			
dwarfs			
fairies			
figures			
girls			
jitterbugs			
men			
skaters			
spirits			
swimmers			
<i>Human details</i> 1%	.....	<i>Human details</i> 14%	.....
legs of dancer		face with cigar	
<i>Natural objects</i> 1%	.....	.....	.....
sand bar			
<i>Objects</i> 5%	<i>Objects</i> 21%	<i>Objects</i> 29%	<i>Objects</i> 7%
ax covered with blood	microphone	something in	bloody weapons
	hanging	butcher shop	
gargoyle	pipe	spots	
saucepan	plane falling		
scarf			
<i>Plants, etc.</i> 1%	.....	.....	.....
watermelon			
<i>Signs and symbols</i> 1%	.....	.....	.....
astrological signs			
<i>Symbolism</i> 3%	.....	.....	.....
conscience			
nasty thoughts			
suggestion that all is			
not well			

CARD III—Continued

D 3

D3 = 30 D3 % = 5	D3 = 20 D3 % = 16	D3 = 2 D3 % = 3	D3 = 5 D3 % = 5
.....	.....	.....	<i>Anatomy (animal)</i> 20% intestines of crab
<i>Anatomy (human)</i> 37%	<i>Anatomy (human)</i> 15%	.....	.....
lungs	pelvis		
pelvic girdle	skull		
pelvis			
pubic section			
section of body			
skull			
sternum			
thoracic region			
<i>Animals</i> 30% (<i>Winged</i>) (7%)	<i>Animals</i> 25%	.....	<i>Animals</i> 20%
chickens			
roosters			
(<i>Other than winged</i>) (23%)	(<i>Other than winged</i>) (25%)		(<i>Other than winged</i>) (20%)
crab	crab		crab
crustacean	lobster		
lobster			
<i>Animal details</i> 7%	.....	.....	<i>Animal details</i> 20%
head of animal			head of fish
jaws of animal			
.....	.....	<i>Animal objects</i> 50%	.....
		bird's nest	
.....	<i>Human details</i> 20%	.....	.....
	head (grotesque)		
	head of human		
	head of man		
	head of negro		
.....	<i>Maps, etc.</i> 5%	.....	.....
	map		
.....	.....	<i>Natural objects</i> 50%	<i>Natural objects</i> 20%
		water	lake

CARD III-D 3—Continued

<i>Objects</i> 20%	<i>Objects</i> 35%	.....	<i>Objects</i> 20%
basket	basin		cooking pot
cauldron	candy dish		
hull of ship	crown		
mask	fish bowl		
	jack-o'-lantern		
	kettle		
<i>Plants, etc.</i> 3%	.....	.....	.....
plant growth			
<i>X-ray</i> 3%	.....	.....	.....
x-ray of kidneys			

D 4

D4 = 5 D4% = .8	D4 = 1 D4% = .8	.....	D4 = 3 D4% = 3
<i>Anatomy (human)</i> 40%	.....	.....	.....
stomach			
vertebra			
<i>Animals</i> 20%	<i>Animals</i> 100%		<i>Animals</i> 67%
bears	seals		lobster
			sheep
<i>Animal details</i> 20%	.....	.....	.....
eyes of fly			
<i>Objects</i> 20%	.....	.....	.....
boxing gloves			
.....	.....		<i>Plants, etc.</i> 33%
			pumpkin

D 5

D5 = 12 D5% = 2	D5 = 4 D5% = 3	.....	D5 = 2 D5% = 2
<i>Anatomy (animal)</i> 8%	.....	.....	.....
bone of fish			
<i>Anatomy (human)</i> 8%	<i>Anatomy (human)</i> 25%		.....
clavicle	femur		

CARD III-D 5—Continued

<i>Animals</i> 50% (<i>Winged</i>) (8%) bird (<i>Other than winged</i>) (42%) fish seal	.....	.....
<i>Human details</i> 17% legs	.....	<i>Human details</i> 50% legs
<i>Maps, etc.</i> 17% map of Italy	<i>Maps, etc.</i> 50% map of Italy map of Japan	.....
.....	<i>Objects</i> 25% timber (piece of)	.....
.....	.....	<i>Plants</i> 50% boughs

D 6

D6 = 6 D6% = 1	D6 = 1 D6% = 1
<i>Animals</i> 67% (<i>Winged</i>) (67%) bird			.....
<i>Human beings</i> 17% puppets			.....
.....			<i>Human details</i> 100% head
<i>X-ray</i> 17% x-ray			

D 7

D7 = 2 D7% = .3	D7 = 1 D7% = .8
<i>Animals</i> 50% (<i>Winged</i>) (50%) bird	<i>Animals</i> 100% (<i>Winged</i>) (100%) gosling		

CARD III-D 7—Continued

<i>Animal details</i> 50% head of shark	.....
D 8 = 0		
D 9		
D 9 = 3 D 9% = .5	.....	.....
<i>Anatomy (human)</i> 33% dissected trachea <i>Animals</i> 67% crab pediculus		
D 5 + D 7		
D 5 + D 7 = 2 D 5 + D 7% = .5	.....	.....
<i>Animals</i> 50% (Winged) (50%) birds <i>Natural objects</i> 50% islands		
D 1 + S		
D 1 + S = 1 D 1 + S% = .1		
<i>Objects</i> 100% bowl with red bow		
D 1 + D 3 + S		
D 1 + D 3 + S = 1 D 1 + D 3 + S% = .1	.....	.....
<i>Human details</i> 100% face of Chinese emperor		

CARD III—Continued

D 3 + S

.....	.....	.....	D3 + S = 1 D3 + S% = 1
			<i>Human details</i> 100% bald head

d 1

d1 = 4 d1 % = .6	d1 = 2 d1 % = 2
<i>Animals</i> 25 % fish	.....	
<i>Human details</i> 25 % feet	<i>Human details</i> 50 % foot of Chinese lady		
<i>Objects</i> 50 % shoes	<i>Objects</i> 50 % shoes		

d 2

d2 = 5 d2 % = .8	d2 = 4 d2 % = 3	d2 = 2 d2 % = 3	d2 = 1 d2 % = 1
<i>Animal details</i> 60 % head of bird head of chicken head of rooster	<i>Animal details</i> 75 % head of chicken head of Donald Duck	<i>Animal details</i> 50 % head of animal	<i>Animal details</i> 100 % head of bird
<i>Human details</i> 40 % face of person	<i>Human details</i> 25 % head and neck	<i>Human details</i> 50 % face	.....

d 3

d3 = 3 d3 % = .5	d3 = 1 d3 % = .8
<i>Animal details</i> 33 % head of mouse	.....	
<i>Objects</i> 33 % book on coat of arms	<i>Objects</i> 100 % coat tail		
<i>Plants, etc.</i> 33 % pine tree			

CARD III—Continued

dd

dd = 3 dd% = .5	dd = 1 dd% = .8	.....	.....
<i>Anatomy (animal)</i> 33%	.....	
bone of fish			
.....	<i>Human details</i> 100%		
	neck		
<i>Objects</i> 67%	.....	
collar			
splinters			

dr

dr = 10 dr% = 2	dr = 6 dr% = 5	.....	dr = 2 dr% = 2
<i>Anatomy (human)</i> 30%	.....		<i>Anatomy (human)</i> 50%
artery and branch commissure between brain lobes sternum and ribs			skull
<i>Animals</i> 20%	<i>Animals</i> 17%		<i>Animals</i> 50%
(Winged)			(Winged)
(10%)			(50%)
blue jay			bird
(Other than winged)	(Other than winged)		
(10%)	(17%)		
worm	ram		
<i>Animal details</i> 20%	<i>Animal details</i> 17%		.....
head of scottie	tail of shark		
tail of fish			
.....	<i>Human beings</i> 17%		
	child		
<i>Human details</i> 10%	.....	
elbow			
<i>Maps, etc.</i> 10%	<i>Maps, etc.</i> 17%		
map of Italy	map of Italy		

CARD III-dr—Continued

.....	<i>Objects</i> 33% fish bowl mechanical device	
<i>Sex</i> 10% vagina	.....

dr+S

.....	dr+S=1 dr+S%=.8 dr+S=2 dr+S%=2
.....	<i>Animal details</i> 100% head of dog	<i>Anatomy (human)</i> 100% spine throat

S

S=6 S%=1
<i>Anatomy (human)</i> 17% sternum <i>Animals</i> 17% (Winged) (17%) insect <i>Natural objects</i> 33% cloud land <i>Objects</i> 33% shirt		

CARD IV

COLLEGE AGE R = 556	ADULTS R = 110	W	PRISON INMATES R = 66	PSYCHOTICS AND PSYCHOPATHS R = 81
W = 241 W% = 43	W = 33 W% = 30		W = 37 W% = 56	W = 55 W% = 68
<i>Anatomy (animal)</i> .8%	.....		<i>Anatomy (animal)</i> 3%	<i>Anatomy (animal)</i> 2%
skull of animal			skull of turtle	skeleton of monster
skull of bat				
<i>Anatomy (human)</i> 5%	.....		<i>Anatomy (human)</i> 5%	<i>Anatomy (human)</i> 5%
bony structure			lower extremities	remains of person
cell			pelvis (crushed)	skeleton
dorsal aspect of body				thorax
manubrium				
mouth (inside) of				
person				
pectoral girdle				
sacrum				
scab from wound				
sternum				
<i>Animals</i> 31%	<i>Animals</i> 18%		<i>Animals</i> 30%	<i>Animals</i> 35%
(<i>Winged</i>)	(<i>Winged</i>)		(<i>Winged</i>)	(<i>Winged</i>)
(12%)	(9%)		(11%)	(15%)
bat	bat		bat	bat
bug	bug		bug	bug
butterfly	moth		eagle	insect
eagle				moth
insect				
mantis				
moth				
wasp				
(<i>Other than winged</i>)	(<i>Other than winged</i>)		(<i>Other than winged</i>)	(<i>Other than winged</i>)
(19%)	(9%)		(19%)	(20%)
animal	animal		animal	bear
ant	dog		bear	bull
ape	muskrat		gorilla	caterpillar
beaver			marine animal	gorilla
cat			spider	horse
crab			turtle	jackal
dog				monster
dragon				sea animal
fish				squid
frog				
gorilla				
kangaroo				
marine animal				
monster				
prehistoric animal				
ray				
skunk				
squirrel				

CARD IV-W—Continued

<i>Animal details</i> 5%		<i>Animal details</i> 5%	
back of monkey		head of animal	
back of penguin		head of dog	
face of beetle		head of insect	
face of insect			
head of bear			
head of caterpillar			
head of dog			
<i>Animal objects</i> 25%		<i>Animal objects</i> 27%	
animal pelt		bear skin	
animal skin		hide	
fossil		pelt	
fur			
fur rug			
shell of turtle			
skin of bat			
skin of bear			
skin of buffalo			
skin of deer			
skin of muskrat			
<i>Architecture</i> .4%		<i>Architecture</i> 2%	
station at night		church in smoke	
<i>Fire, etc.</i> .4%			
shell exploding			
<i>Human beings</i> 13%		<i>Human beings</i> 30%	
Charlie Chaplin		bogey man	
clown		diver	
diver		figure from	
football fan		"Esquire"	
Frankenstein		figure in cartoon	
man		Frankenstein	
medicine man		horseman	
person		man	
		person	
		<i>Human beings</i> 11%	
		clowns	
		man-ape	
		motor cycle rider	
		<i>Human beings</i> 4%	
		man	
		people dancing	
		<i>Human details</i> 3%	
		legs with shoes	
<i>Maps, etc.</i> .8%			
photograph			
slide			
<i>Natural objects</i> 1%		<i>Natural objects</i> 2%	
smudge		smoke	
soil			
tunnel			

CARD IV-W—Continued

<i>Objects</i> 8%	<i>Objects</i> 24%	<i>Objects</i> 3%	<i>Objects</i> 7%
armor	boots	pennant	airplane
book ends	coat		bell
carving of rock	coat of arms		coat of arms
coat	crown		vase
emblem	scarecrow		
hat	trousers		
metal (hammered)	urn		
object			
paper			
scarecrow			
seaplane (smashed)			
shrapnel			
underwear			
vase			
<i>Plants, etc.</i> 3%	.....	<i>Plants, etc.</i> 8%	<i>Plants, etc.</i> 4%
algae		lily	orchid
morning glory		tree stump	tree
plant			
sea anemone			
seaweed			
<i>X-ray</i> 5%	.....	<i>X-ray</i> 14%	<i>X-ray</i> 2%
x-ray		x-ray	x-ray
x-ray of lung			
x-ray of throat			

W'

$W' = 44$ $W'\% = 8$	$W' = 1$ $W'\% = .9$	$W' = 2$ $W'\% = 3$	$W' = 1$ $W'\% = 1$
<i>Anatomy (animal)</i> 2%
dissected rat			
<i>Anatomy (embryo.)</i> 2%
embryo of chick			
<i>Anatomy (human)</i> 2%
sphenoid of skull			
<i>Animals</i> 27%			
(Winged) (9%)			
bat			
beetle			
birds on post			
bug			

CARD IV-W'—Continued

(Other than winged) (18%)		(Other than winged) (50%)	
animal		rat	
cow			
dogs on post			
Protozoa			
rat			
rodent			
<i>Animal details</i>			
7%			
head of elephant			
head of turtle			
plastron of turtle			
<i>Animal objects</i>			
11%			
skin of animal			
skin of bear			
skin of cat			
rug of bear skin			
<i>Human beings</i>		<i>Human beings</i>	
7%		100%	
comedian		comic figure	
person			
<i>Human details</i>			
2%			
feet and trunk			
<i>Objects</i>		<i>Objects</i>	
32%		50%	
boots		boots	
<i>Plants, etc.</i>			
5%			
fungus plant			
tree (Chinese)			
<i>X-ray</i>		<i>X-ray</i>	
2%		100%	
x-ray		x-ray	

WS

WS = 1			
WS% = .1	.....	.....	.....
<i>Plants, etc.</i>			
100%			
tree cut to make tunnel			

CARD IV—Continued

D 1

D1 = 47 D1 % = 8	D1 = 14 D % = 13	D1 = 8 D1 % = 12	D1 = 3 D1 % = 4
<i>Anatomy (animal)</i> 2 % brain of frog	.....	.....	.....
.....	<i>Anatomy (human)</i> 7 % vertebra	.....	.....
<i>Animals</i> 28 % (Winged) (11 %)	<i>Animals</i> 7 %		<i>Animals</i> 33 %
bat			
bee			
bug			
insect			
wasp			
(Other than winged) (17 %)	(Other than winged) (7 %)	.....	(Other than winged) (33 %)
animal	caterpillar		bull
dragon			
fish			
Hydra			
monster			
sea monster			
<i>Animal details</i> 64 %	<i>Animal details</i> 86 %	<i>Animal details</i> 100 %	<i>Animal details</i> 67 %
face of cat	face of beast	face of animal	head of animal
head of bull	head of animal	head of cow	head of rhinoceros
head of caterpillar	head of beetle		
head of cow	head of dragon		
head of dog	head of		
head of horse	hippopotamus		
head of insect	head of snake		
head of lobster	tail of fish		
head of moose			
head of serpent			
head of snail			
head of steer			
tail of lobster			
<i>Plants, etc.</i> 6 %	.....	.....	.....
orchid			
plant growth			
tiger lily			

CARD IV—Continued

D 2

D2 = 59 D2 % = 11	D2 = 23 D2 % = 21	D2 = 5 D2 % = 8	D2 = 7 D2 % = 9
<i>Anatomy (embryo.)</i> 5 % embryo	.....	.....	.....
<i>Anatomy (human)</i> 2 % skull	.....	.....	.....
<i>Animals</i> 3 % calf sea worm	.....	.....	.....
<i>Animal details</i> 2 % head of dog	.....	.....	.....
<i>Human details</i> 25 % feet legs	<i>Human details</i> 30 % feet legs	<i>Human details</i> 20 % feet	<i>Human details</i> 14 % tied feet
<i>Maps, etc.</i> 8 % map map of Italy	<i>Maps, etc.</i> 13 % map of Great Britain map of Italy	.....	.....
<i>Objects</i> 54 % boots (44 %) shoes	<i>Objects</i> 57 % boots shoes	<i>Objects</i> 80 % shoes	<i>Objects</i> 71 % boots <i>Plants, etc.</i> 14 % sea-weed

D 3

D3 = 3 D3 % = .5	D3 = 1 D3 % = .9	D3 = 1 D3 % = 2
.....	<i>Human details</i> 100 % feet	.....	.....
<i>Objects</i> 100 % hat (trampled) shoes (wooden) toy	.....	<i>Objects</i> 100 % boots	

CARD IV—Continued

D 4

D4 = 28 D4% = 5	D4 = 3 D4% = 3	D4 = 3 D4% = 5	D4 = 6 D4% = 7
<i>Anatomy (animal)</i> 7% spinal cord of crayfish spinal cord of fish	.....	.....	.....
<i>Anatomy (embryo.)</i> 7% embryonic chick neural groove	.....	.....	.....
<i>Anatomy (human)</i> 36% backbone body spine spinal cord vertebral column	<i>Anatomy (human)</i> 67% spinal cord vertebra	<i>Anatomy (human)</i> 67% backbone spinal column	<i>Anatomy (human)</i> 50% vertebral column
<i>Animals</i> 25% caterpillar fish organism prehistoric animal rat and reflection	.....	<i>Animals</i> 33% dog	<i>Animals</i> 17% squirrel
<i>Architecture</i> 4% spire and clouds	..... <i>Fire, etc.</i> 33% torch (flame)	.....	.....
<i>Natural objects</i> 7% fountain	.....	.....	<i>Natural objects</i> 17% oil gushing
<i>Objects</i> 11% bottle lamp standard torpedo	.....	.....	<i>Objects</i> 17% Springfield 38
<i>X-ray</i> 4% x-ray	.....	.....	.....

CARD IV—Continued

D5 = 3 D5% = .5		D 5	
<i>Animals</i> 67% animal fish <i>Objects</i> 33% armor			
D 6			
D6 = 10 D6% = 2	D6 = 4 D6% = 4	.....	D6 = 2 D6% = 2
.....	<i>Anatomy (animal)</i> 25% backbone of dog		.....
<i>Anatomy (human)</i> 30% section of skull sternum thoracic wall	.....		.....
<i>Animals</i> 10%	.....		<i>Animals</i> 100% (Winged) (50%) butterfly (Other than winged) (50%) caterpillar
fish			
<i>Animal details</i> 10% head of airedale	<i>Animal details</i> 25% head of dog		.....
.....	<i>Human details</i> 25% head of god		.....
<i>Maps, etc.</i> 10%	.....		.....
map			
<i>Natural objects</i> 30% fountain water and ornament	.....		.....
.....	<i>Objects</i> 25% vase		.....
<i>Plants, etc.</i> 10%	.....		.....
plant			

CARD IV—Continued

D 1+S

D1+S=1 D1+S% = .1	D1+S=2 D1+S% = 2	.....	.....
.....	<i>Architecture</i> 50% shrine		
.....	<i>Maps, etc.</i> 50% map of Madison and lakes		
<i>Natural objects</i> 100% den	.....	

d 1

d1 = 3+ d1% = 6	d1 = 8 d1% = 7	d1 = 2 d1% = 3	d1 = 3 d1% = 4
<i>Anatomy (animal)</i> 3% skull of bird	.....	.....	.....
<i>Anatomy (human)</i> 15% blood vessel (torn) clavicle scapula	.....	.....	<i>Anatomy (human)</i> 33% arm bones
<i>Animals</i> 26% (<i>Winged</i>) (12%) bird crane duck swan (<i>Other than winged</i>) (15%) fish serpent snake worm	.....	.....	.....
<i>Animal details</i> 21% head of bird head of duck head of horse head of insect tail wing	<i>Animal details</i> 25% head of ostrich tail of cow	.....	<i>Animal details</i> 33% tail

CARD IV-d 1—Continued

<i>Human details</i> 6%	<i>Human details</i> 13%	.....	.....
arm	arms (shriveled)		
.....	<i>Maps, etc.</i> 25%	.....	.....
	anatomical		
	diagram		
	map of		
	Madagascar		
<i>Natural objects</i> 3%	.....	.....	<i>Natural objects</i> 33%
fountain			fountain
<i>Objects</i> 18%	<i>Objects</i> 38%	<i>Objects</i> 50%	.....
handle	handles	pitcher handle	
harp	tongs		
sleeve			
snap hook			
trophy			
<i>Plants, etc.</i> 3%	.....	<i>Plants, etc.</i> 50%	.....
pistil of flower		leaves	
<i>Sex</i> 3%	.....	.....	.....
penis			
<i>Miscellaneous</i> 3%	.....	.....	.....
drooling			

d 2

d2=27 d2%= 5	d2=11 d2%=10	d2=2 d2%= 3	d2=1 d2%=1
<i>Anatomy (embryo.)</i> 4%	.....	.....	.....
embryo			
<i>Anatomy (human)</i> 4%	.....	.....	.....
chromosome spindle			
.....	<i>Animals</i> 18%	.....	.....
	(Winged)		
	(18%)		
	insect		
<i>Animal details</i> 15%	<i>Animal details</i> 36%	.....	<i>Animal details</i> 100%
head of animal	face of cat		head of skunk
head of caterpillar	face of insect		
head of dragon	face of kitten		
wings of eagle			

CARD IV-d 2—Continued

<i>Fire, etc.</i> +%	.....	.....	.....
torch (flame)			
.....	<i>Human details</i> 9%	.....	.....
	tooth		
<i>Natural objects</i> 33%	.....	<i>Natural objects</i> 50%	.....
artesian well		fountain	
fountain			
<i>Objects</i> 7%	<i>Objects</i> 18%	<i>Objects</i> 50%	.....
air corps wings	hat	nail	
weather vane	tack		
<i>Plants, etc.</i> 30%	<i>Plants, etc.</i> 18%	.....	.....
flower	blossom		
fungus	flower bud		
lily			
plant			
<i>Sex</i> 4%	.....	.....	.....
vagina			

d 3

d3 = 4 d3 % = .7	d3 = 1 d3 % = .9	.....	.....
.....	<i>Animal details</i> 100%		
	head of seal		
<i>Animal objects</i> 25%	.....	
pelt			
<i>Architecture</i> 25%	.....	
castle on hillside			
<i>Human details</i> 25%	.....	
head of man			
<i>Plants, etc.</i> 25%	.....	
tree (snow-covered)			

d4 = 2
d4 % = .3

d 4

<i>Animal details</i> 100%			
head of snail			
head of wasp			

CARD IV—Continued

dd			
dd = 6 dd% = 1	dd = 4 dd% = 4	dd = 1 dd% = 2	.....
<i>Animal details</i> 50% eyes of cow head of bat horns	.....	<i>Animal details</i> 100% hoofs of animal	
<i>Architecture</i> 17% shrine in valley	.....	.....
.....	<i>Human details</i> 100% eyes face	.....
<i>Maps, etc.</i> 17% map of Mexico	.....	.....
<i>Objects</i> 17% boot (furry)	.....	.....
de = 6 de% = 1	de	de = 1 de% = 1	
<i>Human details</i> 100% face of person profile		<i>Human details</i> 100% face	
di			
di = 7 di% = 1	.....	.....	di = 1 di% = 1
<i>Anatomy (embryo.)</i> 14% embryo		.....
<i>Anatomy (human)</i> 29% squamous cell thorax (dissected)		.....
.....		<i>Animal details</i> 100% eyes of animal	
<i>Human details</i> 29% face		.....

CARD IV-di—Continued

Natural objects 14%			
clouds			
X-ray 14%			
x-ray			
dr			
dr = 27 dr% = 5	dr = 1 dr% = .9	dr = 3 dr% = 5	dr = 1 dr% = 1
Anatomy (animal) 4%	.....	.....	.....
skull of animal			
Anatomy (embryo.) 11%	.....	.....	.....
embryo			
neural groove			
Anatomy (human) 4%	.....	.....	.....
part of vertebral column			
Animals 15%	.....	.....	.....
(Winged) (7%)			
bat			
eagle			
(Other than winged) (7%)			
animal			
skunk			
Animal details 19%	Animal details 100%	Animal details 33%	.....
back of cat	face of beast	rear end of cow	
face of dog			
head of dog			
Animal objects 4%	.....	.....	.....
shell			
Architecture 4%	.....	.....	.....
spire			
Human beings 4%	.....	.....	.....
person			
Human details 7%	.....	.....	.....
legs of woman			
lips of woman			

CARD IV-dr—Continued

<i>Maps, etc.</i> 7%	.....	.....	.....
map			
map of South America			
.....	.....	.....	<i>Natural objects</i> 100%
			canyon
<i>Objects</i> 15%	.....	.....	.....
head of arrow			
object			
shoes			
vase			
<i>X-ray</i> 7%	.....	<i>X-ray</i> 67%	.....
x-ray		x-ray	

dr + S

.....	dr + S = 2 dr + S% = 2
	<i>Anatomy (human)</i> 50%		
	lungs		
	<i>Architecture</i> 50%		
	bridges and water		

S = 6 S% = 1	S = 2 S% = 2	S	S = 2 S% = 3	.....
<i>Anatomy (human)</i> 17%	.....		
glenoid fossa of scapula				
.....	<i>Animals</i> 50%			
	bears			
<i>Human beings</i> 50%	<i>Human beings</i> 50%		<i>Human beings</i> 50%	
king	people		women	
man				
person				
<i>Human details</i> 17%	.....		
head of ghost				
<i>Maps, etc.</i> 17%	.....		
map of Africa			<i>Objects</i> 50%	
			statues	

CARD V

COLLEGE AGE R = 489	ADULTS R = 96	W	PRISON INMATES R = 70	PSYCHOTICS AND PSYCHOPATHS R = 76
W = 309 W % = 63	W = 40 W % = 42		W = 60 W % = 86	W = 54 W % = 71
<i>Anatomy (human)</i> 1%	.....		<i>Anatomy (human)</i> 3%	<i>Anatomy (human)</i> 6%
bones			jawbone	blood
muscles			vertebra	colon
pectoral region				hipbones
vertebra				
<i>Animals</i> 78 % (<i>Winged</i>) (71 %)	<i>Animals</i> 85 % (<i>Winged</i>) (73 %)		<i>Animals</i> 85 % (<i>Winged</i>) (75 %)	<i>Animals</i> 78 % (<i>Winged</i>) (76 %)
bat (30%)	bat		bat	bat
bee	butterfly		bird	bird
beetle	moth		bug	bug
bird			butterfly	butterfly
bug			moth	eagle
butterfly (21%)			peacock	"flying winged"
coleopter			pheasant	insect
crow			pterodactyl	moth
Donald Duck				penguin
grasshopper				winged creature
insect				
mosquito				
moth (7%)				
ostrich				
(<i>Other than winged</i>) (7 %)	(<i>Other than winged</i>) (13 %)		(<i>Other than winged</i>) (10 %)	(<i>Other than winged</i>) (2 %)
animal	donkey with		bull, charging	rabbit
antelope	packs		fox, flying	
bull	jack rabbit		goats	
creature	rabbit with		rabbit	
deer	burden		road runner	
flying squirrel	rabbit with wings			
hippopotamus	spider			
Minnie Mouse				
mule				
prehistoric animal				
rabbit holding wings				
slug				
snail				
<i>Animal details</i> .3 %	.....		.....	.....
legs of mouse				
<i>Animal beings</i> .3 %	.....		.....	<i>Animal objects</i> 4 %
skin of rabbit				fox fur
				hide

CARD V-W—Continued

<i>Human beings</i> 12%	<i>Human beings</i> 10%	<i>Human beings</i> 8%	<i>Human beings</i> 9%
angel	dancer	actress	devil
ballet dancer	fan dancer	dancer	fan dancer
bat man	imp	fairy	humanity, mangled
clown		fan dancer	
devil		follies girl	
ghost man			
giant			
girl			
lady			
man			
man from Mars			
Mr. Hyde			
person			
rabbit man			
show girl			
three thieves			
three people			
<i>Human details</i> .9%	.....	.....	.....
face of god			
head with bumps			
knock-kneed legs			
<i>Maps, etc.</i> .3%	<i>Maps, etc.</i> 3%	.....	.....
map of Denmark	map of coast of Austria		
<i>Natural objects</i> 1%	<i>Natural objects</i> 3%	<i>Natural objects</i> 2%	.....
clouds	mountains	lava	
island			
rock			
shoreline			
<i>Objects</i> 4%	.....	<i>Objects</i> 2%	<i>Objects</i> 4%
airplane		toupee	crown
arrowhead			saddle
balloon			
brig with sails set			
brooch			
collar on coat			
hat			
jacket			
shield			
wreath			
<i>Plants, etc.</i> .9%			
fungus			
maple seed			

CARD V—Continued

<i>W'</i>			
<i>W'</i> = 29 <i>W'</i> % = 6	<i>W'</i> = 5 <i>W'</i> % = 5	<i>W'</i> = 2 <i>W'</i> % = 3	<i>W'</i> = 1 <i>W'</i> % = 1
<i>Anatomy (human)</i> 3 % pelvic bones	.....	.....	.....
<i>Animals</i> +1 % (<i>Winged</i>) (3+%)	<i>Animals</i> 40 % (<i>Winged</i>) (40%)	<i>Animals</i> 50 % (<i>Winged</i>) 50 %	.....
bat	eagle	bat	
butterfly	moth		
insect			
seahawk			
(<i>Other than winged</i>) (7 %)			
caterpillar			
	<i>Animal objects</i> 20 % fur	.....	.....
<i>Architecture</i> 7 %	.....	.....	.....
bridge			
staircase			
<i>Human beings</i> 3 %	.....	.....	.....
person			
<i>Human details</i> 7 %	.....	.....	.....
heads of men			
<i>Natural objects</i> 10 %	.....	.....	<i>Natural objects</i> 100 % grave (mound)
clouds			
dirt			
smoke			
<i>Objects</i> 21 %	<i>Objects</i> 40 %	<i>Objects</i> 50 %	.....
airplane	airplane	toupee	
glider	footstool		
gun			
mask			
pin			
toupee			
<i>Signs and Symbols</i> 3 %	.....	.....	.....
"V"			
<i>Miscellaneous</i> 3 %	.....	.....	.....
Roman battle scene			

CARD V—Continued

D 1			
D1 = 39 D1% = 8	D1 = 9 D1% = 9	D1 = 2 D1% = 3	D1 = 6 D1% = 8
<i>Anatomy (human)</i> 5%	.....	.....	<i>Anatomy (human)</i> 17%
rib			vertebra
sternum			
<i>Animals</i> 10%	<i>Animals</i> 11%	.....	<i>Animals</i> 17%
(Winged) (3%)			
bird			
(Other than winged) (8%)	(Other than winged) (11%)		(Other than winged) (17%)
antelope	rabbit		buffalo
dog			
mole			
<i>Animal details</i> 8%	.....	.....	<i>Animal details</i> 17%
head of alligator			back of camel
head of dragon			
heads of bears in a pile			
<i>Human beings</i> 26%	<i>Human beings</i> 22%	.....	.....
dancer	man reclining		
girl	man with		
man	wooden leg		
person			
woman			
<i>Human details</i> 38%	<i>Human details</i> 22%	<i>Human details</i> 100%	<i>Human details</i> 50%
head of person	head	faces	faces
(and beard)	profile of giant		head of Pharaoh
<i>Natural objects</i> 5%	<i>Natural objects</i> 33%	.....	.....
shoreline	cloud		
skyline	island		
	smoke screen		
<i>Objects</i> 5%	<i>Objects</i> 11%	.....	.....
high-heeled shoe	mask		
mask			
<i>Miscellaneous</i> 3%	.....	.....	.....
sulphite fibers			

CARD V—Continued

D 2

D2 = 28 D2% = 6	D2 = 2 D2% = 2	D2 = 4 D2% = 6	D2 = 3 D2% = 4
<i>Anatomy (human)</i> 4% nerve cords	.....	.....	.....
<i>Animals</i> 68% (<i>Winged</i>) (14%) bug grasshopper insect	<i>Animals</i> 50%	<i>Animals</i> 50%	<i>Animals</i> 100%
(<i>Other than winged</i>) (54%) antelope deer dog donkey fox terrier rabbit rat snail	(<i>Other than winged</i>) (50%) donkey	(<i>Other than winged</i>) (50%) caterpillar donkey	(<i>Other than winged</i>) (100%) rabbit
<i>Human beings</i> 29% clown dancer devil person	<i>Human beings</i> 50% dancer	<i>Human beings</i> 50% figure man dressed as rabbit	.....

d 1

d1 = 22 d1% = 4	d1 = 9 d1% = 9	..... d1 = 3 d1% = 4
<i>Anatomy (human)</i> 9% bones part of brain	.....	.....
<i>Animals</i> 5% fish	.....	.....
<i>Animal details</i> 27% antennae beak feet of animal legs of mouse	<i>Animal details</i> 67% beak claws of lobster feet of bat feet of rabbit legs of bird legs of grasshopper	<i>Animal details</i> 67% legs of chicken

CARD V-d 1—Continued

<i>Animal objects</i> 5%	<i>Animal objects</i> 11%	.....
wishbone	wishbone	
<i>Objects</i> 50%	<i>Objects</i> 22%	<i>Objects</i> 23%
forceps	leg of lamb	tweezers
handle of urn	(food)	
hockey sticks	tweezers	
ice tongs		
pliers		
tweezers		
<i>Plants, etc.</i> 5%	.....	.....
lily		

d 2

d2 = 26 d2% = 5	d2 = 9 d2% = 9	d2 = 2 d2% = 3	d2 = 5 d2% = 7
<i>Anatomy</i> 12%	<i>Anatomy</i> 11%	.....	<i>Anatomy</i> 20%
bone	bone		bones of feet
fibia and tibia			
<i>Animal details</i> 73%	<i>Animal details</i> 78%	<i>Animal details</i> 50%	<i>Animal details</i> 40%
claws of crab	claw of lobster	leg of animal	head of greyhound
head of alligator	head of alligator		tail
head of crocodile	head of crocodile		
leg of cow	head of duck		
leg of ostrich			
mouth of alligator			
<i>Animal objects</i> 4%	<i>Animal objects</i> 11%	.....	.....
drumstick	drumstick		
<i>Human details</i> 4%	.....	<i>Human details</i> 50%	<i>Human details</i> 40%
leg of person		leg	legs
			limbs
<i>Objects</i> 4%	.....	.....	.....
syringe			
<i>Plants, etc.</i> 4%	.....	.....	.....
twigs of tree			

CARD V—Continued

d 3

d3 = 20 d3% = 4	d3 = 14 d3% = 15	.....	d3 = 2 d3% = 3
<i>Animals</i> 10% (<i>Winged</i>) (5%) devil bird (<i>Other than winged</i>) (5%) worms	.....		.....
<i>Animal details</i> 45%	<i>Animal details</i> 57%		<i>Animal details</i> 100%
antennae	compound eyes		head of rabbit
beak	ears of rabbit		
head of caterpillar	head of donkey		
head of lion	head of grass-		
head of rabbit	hopper		
head of snail	head of rabbit		
	head of snake		
<i>Animal objects</i> 5%	.....		.....
wishbone			
.....	<i>Human beings</i> 7%		.....
	man standing on head		
<i>Human details</i> 5%	<i>Human details</i> 7%		.....
head of lady	hands (upraised)		
<i>Objects</i> 5%	<i>Objects</i> 21%		.....
statue	pincers		
	scissors		
	windmill		
<i>Plants, etc.</i> 5%	.....		.....
pollen grain			
<i>Signs and Symbols</i> 20%	<i>Signs and Symbols</i> 7%		.....
"V"	"V"		
<i>X-ray</i> 5%	.....		.....
x-ray			

CARD V—Continued

d 4			
d4=4 d4%=.8	d4=2 d4%=2	.....	.....
<i>Animal details</i> 25% head of bear	.....	
<i>Human details</i> 50% face of god head of person	.....	
<i>Natural objects</i> 25% cliff	<i>Natural objects</i> 100% cliff mountain		
d 2+S			
.....	d2+S=1 d2+S%=1	.....	.....
	<i>Maps, etc.</i> 100% map		.
dd			
dd=1 dd%=.2	.....	.....	.....
<i>Anatomy (human)</i> 100% mammary glands			
de			
de=6 de%=1	de=1 de%=1	.....	de=1 de%=1
<i>Animal details</i> 50% face of ogre head of dog hump of camel	<i>Animal details</i> 100% head of horse	.....
<i>Human details</i> 33% face of John Bull head of person	.....	.....
<i>Natural objects</i> 17% skyline of hills	.....		<i>Natural objects</i> 100% mountain

CARD V—Continued

dr			
dr = 3 dr% = .6	dr = 2 dr% = 2	.....	dr = 1 dr% = 1
<i>Anatomy</i> 33% blood	.....		.....
.....	.....		<i>Animals</i> 100% shark
.....	<i>Architecture</i> 50% building		.....
<i>Human beings</i> 33% person	.....		.....
<i>Natural objects</i> 33% mountain	<i>Natural objects</i> 50% rocky crag		.....
dr + S			
.....	dr + S = 1 dr + S% = 1	.....	.....
	<i>Fire, etc.</i> 100% volcano		
S			
S = 2 S% = .4	S = 1 S% = 1	.....	.....
<i>Human details</i> 50% face of woman	.....	
<i>Natural objects</i> 50% snow	<i>Natural objects</i> 100% snow		

CARD VI

COLLEGE AGE R = 565	ADULTS R = 101	W	PRISON INMATES R = 59	PSYCHOTICS AND PSYCHOPATHS R = 84
W = 116 W% = 21	W = 15 W% = 15		W = 18 W% = 31	W = 35 W% = 42
<i>Anatomy (animal)</i> 2% cross section of wasp skeleton of chicken
<i>Anatomy (human)</i> 2% cell part of the body	<i>Anatomy</i> 3% bones
<i>Animals</i> 28% (<i>Winged</i>) (5%) dragonfly insect moth		<i>Animals</i> 22% (<i>Winged</i>) (11%) bug wild duck	<i>Animals</i> 34% (<i>Winged</i>) (17%) darning needle insect moth wild goose winged creature
(<i>Other than winged</i>) (22%) animal beaver catfish caterpillar (squashed) crab fish flying squirrel Hydra jelly fish louse mammal mouse ray fish squid tortoise turtle worm		(<i>Other than winged</i>) (11%) crustacean turtle	(<i>Other than winged</i>) (17%) beast fish giraffe squirrel turtle
<i>Animal objects</i> 27% animal skin animal hide bear rug bear skin beaver skin fox fur fur rug leopard skin skunk skin tiger skin	<i>Animal objects</i> 33% pelt skin		<i>Animal objects</i> 50% skin	<i>Animal objects</i> 40% fur skin

CARD VI-W—Continued

<i>Architecture</i> 3%	<i>Architecture</i> 7%	.....	.....
Aztec gate to village	Gothic church		
entrance to Egyptian	and altar		
mosque			
lighthouse			
<i>Art</i> .8%	.....	.....	.....
Indian art			
<i>Color</i> .8%	.....	.....	.....
black and gray splash			
.....	.....	<i>Fire, etc.</i> 6%	.....
		rocket (fire)	
<i>Human beings</i> .8%	.....	.....	.....
ghost			
.....	.....	.....	<i>Maps, etc.</i> 3%
			photograph
<i>Natural objects</i> 10%	<i>Natural objects</i> 20%	.....	<i>Natural objects</i> 3%
cross section of gusher	cut through		cave and waterfall
ditch	mountain, canal		
fort	and locks		
fountain	fountain		
Grand Canyon	snow crystals		
oil well			
river valley			
rock			
section of land			
view of land			
<i>Objects</i> 16%	<i>Objects</i> 33%	<i>Objects</i> 22%	<i>Objects</i> 11%
bomber	banjo	hall rack	coat of arms
candle holder	hat	lighting fixture	radio antenna
chandelier	ink blot	shield	sacred relic
crest	medal	torpedo	tennis racquet
crown with feathers	vase		
decoration of copper			
emblem			
hinge			
insignia			
lamp			
proW of ship			
rack for magazines			
relic			
sceptre			
tennis racquet			
totem pole			
warming pan			

CARD VI-W—Continued

<i>Plants, etc.</i> 9%	<i>Plants, etc.</i> 7%	<i>Plants, etc.</i> 3%
flower with flower pot	tree (broken)	cross section of flower
leaf		
maple leaf		
plant in basket		
seed pod		
tree		
<i>X-ray</i> .8%		<i>X-ray</i> 3%
x-ray		x-ray
<i>Miscellaneous</i> .8%		
something under dusty microscope		

W'

W' = 139 W' % = 25	W' = 23 W' % = 23	W' = 18 W' % = 31	W' = 9 W' % = 11
<i>Anatomy (animal)</i> .7%			
dissection of pigeon			
<i>Anatomy (human)</i> 4%			
manubrium			
sacrum and part of lumbar region			
spinal cord			
sternum			
<i>Animals</i> 17%	<i>Animals</i> 13%		
animal	amoeba		
beaver	squirrel		
codfish	turtle		
flying squirrel			
frog			
guinea pig			
halibut			
muskrat			
primitive vertebrate			
ray fish			
tadpole			
turtle			
worm			
<i>Animal details</i> .7%	<i>Animal details</i> 4%		
head of lizard	wings of butterfly		

CARD VI-W'—Continued

<i>Animal objects</i> 42%	<i>Animal objects</i> 65%	<i>Animal objects</i> 89%	<i>Animal objects</i> 33%
animal skin	bear skin	skin	pelt
bear rug	bear skin rug		skin
bear skin	fur		
beaver skin	pelt		
fox fur	skin		
hide			
skin of mouse			
skin of rabbit			
skin of tiger			
shell			
<i>Architecture</i> 3%	.....	<i>Architecture</i> 6%	.....
church		street with high	
house		walls	
lighthouse			
tower			
<i>Fire, etc.</i> .7%	.....	.....	.....
bomb exploding			
.....	.....	.....	<i>Human beings</i> 11%
.....	<i>Human details</i> 4%	<i>Human details</i> 6%	people dancing
	tooth	faces	.....
<i>Maps, etc.</i> 2%	.....	.....	.....
aerial map			
map			
relief map			
<i>Natural objects</i> 10%	.....	.....	<i>Natural objects</i> 11%
ditch			clouds
dust			
geyser erupting			
ground penetrated by			
drill			
mine shaft			
mountain and divide			
rock			
scaling from boiler			
section of earth			
smoke			
substance			
<i>Objects</i> 17%	<i>Objects</i> 4%	.....	<i>Objects</i> 44%
beds	coat (of fur)		destroyer, capsized
beef			material
bookends			ornamental stuff
bucket			pole

CARD VI-W'—Continued

cake			
champagne bottle on			
ice			
crown			
decoration			
drill			
drinking trough			
machinery			
manuscript			
pinafore			
saddle and stirrups			
shield			
star			
steamship			
sweater			
<i>Plants, etc.</i>	<i>Plants, etc.</i>	.....	.....
4%	4%		
flower	sprouting seed		
leaf			
.....	X-ray	.....	.....
	4%		
	x-ray		

D 1

D1 = 18 D1 % = 3	D1 = 3 D1 % = 3	D1 = 1 D1 % = 1
<i>Animal details</i>	.....		.....
11%			
head of boar			
.....	<i>Architecture</i>		.....
	33%		
	decorated pillars		
<i>Human details</i>	<i>Human details</i>		.....
56%	33%		
head of Barrymore	head of king		
head of king			
head of King Cole			
head of Old Man of			
Mountain			
head of Saint Nick			
<i>Maps, etc.</i>	.....		<i>Maps, etc.</i>
11%			100%
map			map of
			Massachusetts
<i>Natural objects</i>	.....		.....
6%			
clouds			
<i>Objects</i>	<i>Objects</i>		.....
17%	33%		
chair	bookends		
ship			

CARD VI—Continued

D 2

D2 = 118 D2% = 21	D2 = 24 D2% = 24	D2 = 10 D2% = 17	D2 = 11 D2% = 13
<i>Anatomy (human)</i> 2%	.....	.....	.....
nerve root			
sternum			
<i>Animals</i> 23%	<i>Animals</i> 21%	<i>Animals</i> 10%	<i>Animals</i> 36%
(<i>Winged</i>)	(<i>Winged</i>)		(<i>Winged</i>)
(18%)	(21%)		(27%)
bird	dragon fly		dragon fly
bug	fly		eagle
butterfly	flying duck		insect
dragon fly			
duck			
eagle			
goose			
insect			
owl			
penguin			
prehistoric bird			
"winged caterpillar"			
(<i>Other than winged</i>)		(<i>Other than winged</i>)	(<i>Other than winged</i>)
(5%)		(10%)	(9%)
animal		turtle	animal
fish			
pneumococcus			
prehistoric animal			
radpole			
worm			
<i>Animal details</i> 3%	<i>Animal details</i> 8%	.....	<i>Animal details</i> 9%
face of animal	feelers of insect		face of cat
face of trout	head of insect		
head of owl			
head of turkey			
<i>Architecture</i> 8%	<i>Architecture</i> 13%	<i>Architecture</i> 10%	.....
lighthouse	lighthouse	tower	
monument	tower and clouds		
steeple of church			
tower			
.....	.....	<i>Art</i> 10%	.....
		Navaho design	
<i>Fire, etc.</i> .8%	<i>Fire, etc.</i> 4%	.....	<i>Fire, etc.</i> 9%
rocket	rocket		flames

CARD VI-D 2—Continued

<i>Human beings</i> .8%		<i>Human beings</i> 9%	
pagan god		Chinese emperor	
<i>Human details</i> 2%			
clenched fist			
head of man			
<i>Maps, etc.</i> 2%			
map			
<i>Natural objects</i> 2%		<i>Natural objects</i> 10%	<i>Natural objects</i> 9%
fountain		oil well	water
<i>Objects</i> 57%	<i>Objects</i> 50%	<i>Objects</i> 60%	<i>Objects</i> 27%
airplane	beacon	chair post	beacon
altar	cross	cylinder	propeller
ax	flags unfurled	totem	totem pole
baton	Indian feathers	wand	
bed post (decorated)	totem pole	war club	
candle holder	sword		
cross	weather vane		
dart			
drill			
emblem			
engine of airplane			
handle of dagger			
headdress (Indian)			
idol			
lamp			
mace of pope			
object with feathered appendages			
pin			
pole			
post			
sceptre			
spearhead			
sword			
totem pole (25%)			
<i>X-ray</i> .8%			
x-ray			
	<i>Miscellaneous</i> 4%		
	electric discharge		

CARD VI—Continued

D 3

D3 = 3+ D3 % = 6	D3 = 8 D3 % = 8	D3 = 6 D3 % = 10	D3 = 7 D3 % = 8
<i>Anatomy (animal)</i> 3 % dorsal part of animal	.....	.....	.....
<i>Anatomy (embryo.)</i> 9 % brain of embryo primitive streak	.....	.....	.....
<i>Anatomy (human)</i> 3 % vertebral column	.....	.....	.....
<i>Animals</i> 9 % roach seahorse tadpole	<i>Animals</i> 13 % tadpole	.....	.....
	<i>Architecture</i> 13 % lighthouse		
<i>Human beings</i> 6 % man soldier	<i>Human beings</i> 13 % man	.....	.....
<i>Objects</i> 71 % banister post bed post candlestick club drill furniture leg lamp stand pan handle rail spindle stair rail sword table leg thermometer totem pole	<i>Objects</i> 13 % bomb	<i>Objects</i> 100 % candle holder drill drill press light bulb poker pole	<i>Objects</i> 100 % bed post candlestick gas lamp knife handle lathe piece of furniture
.....	<i>Plants, etc.</i> 25 % asparagus	.....	.....
.....	<i>Sex</i> 25 % penis phallic symbol	.....	.....

CARD VI—Continued

D 4

D4=12 D4%= 2	.....	D4=1 D4%=2	D4=4 D4%=5
<i>Anatomy (embryo.)</i> 17 % embryonic neural groove	.....	.....	.....
<i>Anatomy (human)</i> 17 % spinal column vertebral column	.....	.....	<i>Anatomy (human)</i> 25 % vertebra
<i>Objects</i> 58 % bed post drill lamp post pipe statue totem pole	.....	<i>Objects</i> 100 % candlestick	<i>Objects</i> 75 % furniture pole
<i>Miscellaneous</i> 8 % electrical impulses	.....	.....	.....

D 5

D5=24 D5%= 4	D5=3 D5%=3	D5=1 D5%=2	D5=1 D5%=1
<i>Anatomy (human)</i> 4 % macrophage	.....	.....	.....
<i>Animals</i> 17 % (Winged) (17 %)	<i>Animals</i> 33 % (Winged) (33 %)	<i>Animals</i> 100 % (Winged) (100 %)	<i>Animals</i> 100 % (Winged) (100 %)
bird insect	geese	birds	birds
<i>Animal details</i> 17 % wings of bird wings of hen swimmerettes of crab	.....	.....	.....
<i>Animal objects</i> 17 % ermine tails feathers	.....	.....	.....
<i>Fire, etc.</i> 4 % flame	<i>Fire, etc.</i> 33 % bursting bomb	.....	.....

CARD VI-D 5—Continued

<i>Natural objects</i> 13%	.....	.....	.....
fountain			
light			
mud			
<i>Objects</i> 4%	<i>Objects</i> 33%	.....	.....
emblem	Indian feathers		
<i>Plants, etc.</i> 21%	.....	.....	.....
leaves			
<i>Miscellaneous</i> 4%	.....	.....	.....
electricity waves			

D 6

D6 = 29 D6% = 5	.....	D6 = 3 D6% = 5	D6 = 2 D6% = 2
<i>Anatomy (animal)</i> 3%	.....	.....	.....
n ural system in worm			
<i>Anatomy (embryo.)</i> 7%	.....	.....	.....
embryo			
embryo of chick			
.....	.....	<i>Anatomy (human)</i> 50%	.....
		anus	
<i>Animals</i> 3%	.....	.....	.....
(Winged)			
(3%)			
bug			
<i>Architecture</i> 3%	.....	.....	.....
monument			
<i>Human beings</i> 3%	.....	.....	.....
king with regalia			
<i>Natural objects</i> 21%	.....	<i>Natural objects</i> 33%	.....
canal and ship		fountain	
fountain			
oil well and pump			
river			

CARD VI-D 6—Continued

<i>Objects</i> 59%	<i>Objects</i> 67%	<i>Objects</i> 50%
brush	baton	bed post
clothes tree	candlestick	
cross		
drill		
lamp		
lamp post		
lantern		
sceptre		
sword		
torpedo		
totem pole		

D 7

D7 = 29 D7% = 5	D7 = 13 D7% = 13 D7 = 6 D7% = 7
<i>Anatomy (animal)</i> 3%	.....	.....
breastbone of turkey		
<i>Anatomy (embryo.)</i> 3%	<i>Anatomy (embryo.)</i> 8%	.....
primitive streak	embryo of insect	
<i>Anatomy (human)</i> 14%	.....	.....
incision		
slit throat		
spinal cord with foramen		
.....	.....	<i>Animals</i> 17%
		caterpillar
<i>Architecture</i> 10%	<i>Architecture</i> 8%	.....
archway leading to corridor	street	
gate		
.....	<i>Human details</i> 8%	.....
	blond hair	
<i>Natural objects</i> 59%	<i>Natural objects</i> 39%	<i>Natural objects</i> 33%
canal and surrounding land	chasm	ditch
canyon	erosion of water	fog
channel	furrow	
creek	gorge and stream	
decay	mountain valley	

CARD VI-D 7—Continued

mountains pipe line and land railroad and surround- ing territory waterfall		
<i>Objects</i> 10%	<i>Objects</i> 15%	<i>Objects</i> 33%
hinge steel torpedo	dagger window	cannon engine
.....	<i>Plants, etc.</i> 23% cross-section of plant section of orange tree grubs	.....
		<i>Sex</i> 17% vagina

d 1

d1 = 11 d1% = 2	d1 = 2 d1% = 2	.....	d1 = 1 d1% = 1
<i>Anatomy (human)</i> 9% sperm head	.....		.....
<i>Animal details</i> 91% head of animal head of cat head of caterpillar head of eagle head of horsefly head of lizard head of owl head of worm	<i>Animal details</i> 50% animal head and whiskers		<i>Animal details</i> 100% head of insect
.....	<i>Objects</i> 50% match head		.....

d 2

d2 = 3 d2% = .5	d2 = 2 d2% = 2	.....	.....
<i>Animal details</i> 67% paw of cat tail of raccoon	.....	

CARD VI-d 2—Continued

<i>Natural objects</i> 33%	<i>Natural objects</i> 50%	
agate	cliff	
.....	<i>Objects</i> 50%	
	spring board	

d 3

d3 = 6 d3 % = 1	d3 = 3 d3 % = 3 d3 = 1 d3 % = 1
<i>Anatomy (human)</i> 33%	.....	<i>Anatomy (human)</i> 100%
ovaries		lungs
thyroid glands		
<i>Animals</i> 17%	<i>Animals</i> 33%	.....
(<i>Winged</i>) (17%)		
birds	squirrels	
<i>Animal objects</i> 17%	<i>Animal objects</i> 33%	.....
clamshell	eggs	
<i>Human beings</i> 17%	.....	.....
persons		
<i>Human details</i> 17%	.....	.....
hands		
.....	<i>Signs and symbols</i> 33%	
	"H"	

d 4

..... d4 = 1 d4 % = 1
<i>Animals</i> 100%	
squirrels	

dd

dd = 5 dd % = .8	dd = 2 dd % = 2	dd = 1 dd % = 2
<i>Animal details</i> 100%	<i>Animal details</i> 100%	<i>Animal details</i> 100%	
claws of animal	heads of squirrels	nose of lion	
feelers	whiskers of cat		
whiskers			

CARD VI—Continued

de

.....	de = 1 de % = 1	de = 1 de % = 2	de = 3 de % = 4
	<i>Human details</i> 100 % face	.....	<i>Human details</i> 67 % face profile
.....		<i>Natural objects</i> 100 % ledge	<i>Natural objects</i> 33 % shoreline of Massachusetts

di

di = 3 di % = .5	.....	.....	.....
<i>Anatomy (human)</i> 33 % ducts			
<i>Human details</i> 67 % face			

dr

dr = 17 dr % = 3	dr = 1 dr % = 1	.....	dr = 3 dr % = 4
<i>Anatomy (embryo.)</i> 6 % embryo of animal
<i>Anatomy (human)</i> 6 % vertebral notches		<i>Anatomy (human)</i> 67 % back of human palate
.....	<i>Animals</i> 100 % squirrel		.....
<i>Architecture</i> 12 % castle doorway
<i>Maps, etc.</i> 6 % map

CARD VII

COLLEGE AGE R=482	ADULTS R=96	PRISON INMATES R=58	PSYCHOTICS AND PSYCHOPATHS R=69
W			
W' = 172 W% = 36	W' = 21 W% = 22	W' = 21 W% = 36	W' = 29 W% = 42
<i>Anatomy (animal)</i> .5% dissected frog	.....	.....	.....
<i>Anatomy (embryo.)</i> .5% embryo	.....	.....	.....
<i>Anatomy (human)</i> 8% bony structure cell chest wall pelvic bones teeth and lower jaw of remains of man thoracic region vertebra	<i>Anatomy (human)</i> 5% human frame	<i>Anatomy (human)</i> 5% spinal column	<i>Anatomy (human)</i> 7% "anatomy" rectum of baby
<i>Animals</i> 9% (Winged) (1%) geese pelicans	.....	<i>Animals</i> 19% (Winged) (5%) bug	<i>Animals</i> 10% (Winged) (3%) winged animal
(Other than winged) (8%) animals dogs donkeys elephants frog monkeys rabbit squirrels starfish		(Other than winged) (14%) dogs monkeys rabbits	(Other than winged) (7%) horses balancing rabbits
<i>Animal details</i> 2% head of bison with part missing horns	.....	.....	.....
<i>Animal objects</i> 2% bear rug rabbit skin sea shell	.....	<i>Animal objects</i> 5% coral	<i>Animal objects</i> 7% coral sponge

CARD VII-W—Continued

<i>Art</i> 1%	<i>Art</i> 5%	.....	.....
design	design		
<i>Human beings</i> 43%	<i>Human beings</i> 19%	<i>Human beings</i> 24%	<i>Human beings</i> 10%
acrobats	dancers	cafe society	figures
angels	old maids	creatures, human	girls
babies	people	gnomes	ladies
Cupids	women	Indians	
dancers		"pecking at the Savoy"	
Dopeys			
dwarfs			
figures			
girls			
gnomes			
imps			
Indians			
jitterbugs			
ladies			
Little Lulu			
nymphs			
old ladies			
old maids			
people			
Punch and Judy			
Siamese twins			
women			
.....	<i>Human details</i> 5%	.....	<i>Human details</i> 3%
	faces		head of Mongolian
<i>Maps, etc.</i> 2%	<i>Maps, etc.</i> 29%	<i>Maps, etc.</i> 14%	<i>Maps, etc.</i> 10%
map	map	map of	map
relief map	map of island	hemispheres	
	map of	map of islands	
	Philippines	map of Malay	
	map of Wake		
	Island		
<i>Natural objects</i> 10%	<i>Natural objects</i> 24%	.	<i>Natural objects</i> 21%
clouds	buttes		clouds
masses of land	islands		island
rock	rocks		lake
smoke			mountain
steam			volcanic island
tract of land			
waterfall			
<i>Objects</i> 20%	<i>Objects</i> 10%	<i>Objects</i> 33%	<i>Objects</i> 31%
beard (false)	statue	furniture	chicken meat
bomber		necklace	coat of arms
book-ends		paper	dolls

CARD VII-W—Continued

bowl bracelet cast cement wall hit by shell chair chicken (fried) clams (fried) clippers collar hanger for stockings lamp necklace objects paper (torn) something broken statue velvet		rag doll stand statues string of charms	door hinge doughnut fragments, burning horseshoe nutcracker
<i>Plants, etc.</i> 2%	<i>Plants, etc.</i> 5%	.....	.....
cactus plant tissue under sea growth 	cactus .....	.....	<i>Symbolism</i> 3% pattern of life

W'

W' = 4 W' % = .8	.....	.....	W' = 1 W' % = 1
<i>Animals</i> 25% (<i>Winged</i>) (25%) bee in flight			.....
<i>Human beings</i> 25% women			.....
<i>Natural objects</i> 25% section of ground 			<i>Objects</i> 100% statue
X-ray 25% x-ray of pelvis			

CARD VII—Continued

WS			
WS=21 WS%= 4	.....	.....	WS=2 WS%=3
.....			<i>Anatomy (animal)</i> 50% skull of alligator
<i>Architecture</i> 5% church in a valley			<i>Architecture</i> 50% entrance to estate
<i>Maps, etc.</i> 5% map of land and water			.....
<i>Natural objects</i> 90% bay and coastline body of water and coast canal and land chasm and cliff harbor land and water pass and cliff reservoir and surrounding land river and rock			.....
D 1			
D1=35 D1%= 7	D1=9 D1%=9	.....	D1=5 D1%=7
<i>Anatomy (human)</i> 6% brain stem pelvic cavity	<i>Anatomy (human)</i> 11% pelvis		.....
<i>Animals</i> 11% (<i>Winged</i>) (11%) butterfly moth			<i>Animals</i> 60% (<i>Winged</i>) (60%) bug butterfly
<i>Animal details</i> 9% head of dog head of scottie	.....		.....
.....	<i>Animal objects</i> 11% fur		<i>Animal objects</i> 20% bivalve

CARD VII-D 1—Continued

<i>Architecture</i> 3%			
street			
.....		<i>Fire, etc.</i> 11%	
		explosion	
<i>Human details</i> 6%		.....
faces of women			
heads			
<i>Maps, etc.</i> 6%		.....
map of Austria			
map of Spain			
<i>Natural objects</i> 26%		<i>Natural objects</i> 44%	<i>Natural objects</i> 20%
chasm and cliffs		boulders	rock
clouds		gorge and	
gale		waterfall	
icebergs		rocks	
mist		thunder clouds	
rock			
sea coast with narrow			
lock			
stone			
valley			
<i>Objects</i> 34%		<i>Objects</i> 22%	
balls		book (open)	
basketball trunks		pin	
collar			
cradle			
football pad			
headdress (Russian)			
hinge			
steel			
stools			
sweater			
swimming trunks			

D 2

D2 = 23 D2% = 5	D2 = 5 D2% = 5	D2 = 5 D2% = 9	D2 = 3 D2% = 4
<i>Anatomy (human)</i> 9%		.....	.....
ribs			
sternum			
<i>Animals</i> 4%		<i>Animals</i> 20%	.....
(Winged)		(Other than winged)	
4%		20%	
swanlike		sheep	

CARD VII-D 2—Continued

<i>Animal details</i> 9%	<i>Animal details</i> 20%	.....	.....
face of monkey	head of elephant		
head of bear			
.....	.....	<i>Human beings</i> 20%	.....
		Indians	
<i>Human details</i> 61%	<i>Human details</i> 20%	<i>Human details</i> 60%	.....
face of puppet	head of man	face	
head of Punch		knees	
heads			
thumb			
thumb and hand			
thumbs up			
.....	<i>Maps, etc.</i> 20%	.....	<i>Maps, etc.</i> 33%
	map of Spain		map of Spain
<i>Natural objects</i> 9%	.....	.....	<i>Natural objects</i> 33%
clouds			rock
peninsula			
<i>Objects</i> 9%	<i>Objects</i> 40%	.....	<i>Objects</i> 33%
mask	gargoyles		coat of arms
watering can	mask		

D 3

D3 = 45 D3 % = 9	D3 = 21 D3 % = 22	D3 = 10 D3 % = 17	D3 = 12 D3 % = 17
<i>Animals</i> 7%	<i>Animals</i> 29%		<i>Animals</i> 8%
	(<i>Winged</i>) (19%)		
	bird		
	chicken		
	ostrich		
	wild goose		
	(<i>Other than winged</i>) (10%)		
animals	cats		squirrel
cats	squirrels		
squirrels			
<i>Animal details</i> 18%	<i>Animal details</i> 5%	<i>Animal details</i> 30%	<i>Animal details</i> 17%
feet of pig	heads of	face of monkey	head of dog
heads of donkeys	elephants	head of dog	head of elephant
heads of rabbits		head of rabbit	
horns			

CARD VII-D 3—Continued

<i>Human beings</i> 2%	.....	<i>Human beings</i> 10%	<i>Human beings</i> 8%
acrobats		figures balanced	figures
<i>Human details</i> 56%	<i>Human details</i> 52%	<i>Human details</i> 60%	<i>Human details</i> 67%
faces	faces	face	faces
faces, impudent	head and hair	thumbs up	head
faces of children	heads		head of child
faces of girls	heads of ladies		
faces of women	heads of old ladies		
head of Indian	heads of women		
head of Victorian lady			
thumb			
thumbs up			
<i>Maps, etc.</i> 7%	<i>Maps, etc.</i> 10%	.....	.....
map	map		
map of British Isles	relief map		
map of Spain			
<i>Natural objects</i> 2%	.....	.....	.....
clouds			
<i>Objects</i> 9%	<i>Objects</i> 5%	.....	.....
pipe	pipe		
rocking chair			
seat			
stamp			

D 4

D4 = 95 D4% = 20	D4 = 9 D4% = 9	D4 = 16 D4% = 28	D4 = 9 D4% = 13
<i>Animals</i> 25 % (Winged) (5 %)	<i>Animals</i> 22 %	<i>Animals</i> 19 % (Winged) (6 %)	<i>Animals</i> 33 %
chicks		geese	
ducks			
eagles			
turkeys			
<i>Other than winged</i> (20%)	<i>(Other than winged)</i> (22%)	<i>(Other than winged)</i> (13%)	<i>(Other than winged)</i> (33%)
dogs	dogs	dogs	rabbits
donkeys	donkeys	poodles	scotties
elephants			
ghosts with tails and horns			
rabbits			
satyrs			
seals			

CARD VII-D 4—Continued

.....	.....	<i>Animal details</i> 6% heads of elephants	.....
.....	<i>Art</i> 11% primitive art	.....	.....
<i>Human beings</i> 44% cherubs children Chinese women dancers elves girls Indians ladies Mercury old ladies Venus women	<i>Human beings</i> 44% figures dancing little girls savage dancers women	<i>Human beings</i> 50% children girls Indians women	<i>Human beings</i> 33% girls people dancing women
<i>Human details</i> 5% hands hands and shoulders thumbs up	.....	<i>Human details</i> 6% heads of women	<i>Human details</i> 11% head of woman
<i>Maps, etc.</i> 3% map map of France relief map	<i>Maps, etc.</i> 11% map of France	<i>Maps, etc.</i> 6% map	.....
<i>Natural objects</i> 7% clouds iceberg island rock rocky promontory smoke	<i>Natural objects</i> 11% cloud formation	<i>Natural objects</i> 13% clouds rocks	<i>Natural objects</i> 22% clouds islands
<i>Objects</i> 15% bust gargoyle radiator cap statue tin can trousers, torn	.....	.....	.....

CARD VII—Continued

D 5

D5 = 3 D5 % = .6	D5 = 2 D5 % = 2	D5 = 2 D5 % = 3
<i>Human beings</i> 33 % jugglers' act	.....	.....
<i>Maps, etc.</i> 33 % map	.....	.....
<i>Natural objects</i> 33 % promontory	<i>Natural objects</i> 50 % cloud formation	.....
.....	<i>Objects</i> 50 % statue	<i>Objects</i> 100 % gargoyle stand made of soap

D 1 + D 2

D1 + D2 = 3 D1 + D2 % = .6	.....	.....
<i>Anatomy (human)</i> 33 % skeleton of pelvic girdle		
<i>Human beings</i> 33 % dancer		
<i>Natural objects</i> 33 % rock		

D 1 + D 2 + S

D1 + D2 + S = 1 D1 + D2 + S % = .2	.....	.....
<i>Anatomy (human)</i> 100 % mouth showing throat		

D 2 + D 3 + S

.....	D2 + D3 + S = 1 D2 + D3 + S % = 1	.....
	<i>Objects</i> 100 % bowl	

CARD VII—Continued

D4+S=1 D4+S%=.2		D 4+S	
Natural objects 100% islands and water			
d 1			
d1=33 d1%= 7	d1=15 d1%=16	d1=3 d1%=5	d1=4 d1%=6
Anatomy (human) 18% blood vessel capillary tube cross-section of sternum epiglottis pectoral region and tissue pubic symphysis 	Anatomy (human) 7% dissection.....	.....	.....
Architecture 3% house	Architecture 33% building church and steeple house and chimney house and gorge		
Human beings 9% people person sentry	.....	Human beings 33% figure	.....
Natural objects 15% canal and steamship stream Suez Canal	Natural objects 27% mine shaft pass between ranges tunnel waterway	Natural objects 33% canal	.....
Objects 52% airplane fuselage bullet candle capsule cigar clamp clasp glue	Objects 33% generator hinge lock and chain zipper	Objects 33% hinge	Objects 75% hinge

CARD VII-d 1—Continued

hinge lock oil plates of fluid drive pin pot zipper	
Sex 3%	.....
female genitalia	

d 2

d2 = 8 d2% = 2	d2 = 2 d2% = 2	.....
<i>Animal details</i> 38%	.....
head of seal horns leg of cow		
<i>Human details</i> 25%	<i>Human details</i> 50%	
finger thumb	hair	
<i>Maps, etc.</i> 13%	.....
map		
<i>Natural objects</i> 13%	.....
snow		
.....	<i>Objects</i> 50%	
	plume	
<i>Plants</i> 13%	.....
branch of tree		

d 3

d3 = 3 d3% = .6	d3 = 1 d3% = 1	.....
<i>Animal details</i> 67%	.....
head of mouse head of mule		
	<i>Architecture</i> 100%	
	town with towers	
<i>Human details</i> 33%	.....
"V" hairdo		

CARD VII—Continued

d 4			
d4 = 6 d4% = 1	d4 = 4 d4% = 4	d4 = 1 d4% = 2	d4 = 2 d4% = 3
<i>Anatomy (human)</i> 17% appendix	.....	.....	.....
<i>Animals</i> 50% snake worm	.....	.....	.....
<i>Animal details</i> 17% tail of lamb	<i>Animal details</i> 50% paw of dog wings of chicken	.....	<i>Animal details</i> 50% foot of animal
.....	<i>Human details</i> 25% waving hand	<i>Human details</i> 100% arm	.....
.....	<i>Natural objects</i> 25% new moon	.....	.....
<i>Objects</i> 17% handle of curling stone	.....	.....	<i>Objects</i> 50% garden pail
dd			
dd = 5 dd% = 1	.....	.....	.....
<i>Architecture</i> 20% house			
<i>Human beings</i> 60% figures people			
<i>Natural objects</i> 20% tunnel			
de			
de = 2 de% = .4	de = 1 de% = 1	.....	.....
<i>Human details</i> 100% profile profile from "funnies"	<i>Human details</i> 100% head of woman		

CARD VII—Continued

dr			
dr = 5 dr% = 1	.....	.....	dr = 2 dr% = 3
<i>Anatomy (human)</i> 20% ligature			<i>Anatomy (human)</i> 50% spinal cord
<i>Animals</i> 20% dog			.....
<i>Human beings</i> 20% person			.....
<i>Human details</i> 20% face			<i>Human details</i> 50% face
<i>Objects</i> 20% apparatus			.....
dr + S = 3 dr + S% = .6	.....	dr + S	.....
<i>Anatomy (human)</i> 33% portion leading into cervix			
<i>Natural objects</i> 33% bay with surrounding land			
<i>Sex</i> 33% vagina			
S = 14 S% = 3	S = 5 S% = 5	S	.....
<i>Human details</i> 7% head	.....	
<i>Natural objects</i> 7% smoke	<i>Natural objects</i> 40% lagoon lake		
<i>Objects</i> 86% arrowhead image sign on Heinz products	<i>Objects</i> 60% arrow arrowhead tool		

CONTENT OF RESPONSES

355

CARD VIII

COLLEGE AGE R = 609	ADULTS R = 90	W	PRISON INMATES R = 68	PSYCHOTICS AND PSYCHOPATHS R = 106
W = 127 W% = 21	W = 21 W% = 23		W = 19 W% = 28	W = 28 W% = 26
<i>Anatomy (animal)</i> 7%	<i>Anatomy (animal)</i> 5%		.....	<i>Anatomy (animal)</i> 11%
dissected animal	skeleton of crab			bones of fish
internal organs of animal				skeleton of crab
internal structure of chicken				skeleton of creature
section of sheep's maxillary region				
skeleton of crab				
skeleton of fish organs				
transverse section through skull of insect				
<i>Anatomy (human)</i> 10%	<i>Anatomy (human)</i> 10%		<i>Anatomy (human)</i> 26%	<i>Anatomy (human)</i> 21%
chest	cell		"anatomy"	chest
dorsal section of body organs	respiratory system		brain and medulla	heart
part of body			skeleton, crushed	human organs
pectoral region				organs
pelvis				pelvis
plexus				tissues
skeleton of body				
tissue				
vertebra				
<i>Animals</i> 9%	<i>Animals</i> 14%		<i>Animals</i> 37%	<i>Animals</i> 18%
(<i>Winged</i>)			(<i>Winged</i>)	(<i>Winged</i>)
(.7%)			(11%)	(7%)
butterfly			bug	insect
			insect	
(<i>Other than winged</i>) (8%)	(<i>Other than winged</i>) (14%)		(<i>Other than winged</i>) (26%)	(<i>Other than winged</i>) (11%)
crab	crab		crab	animals
flat fish	crayfish		sea monster	Japanese dragon
flounder	shellfish		swordfish	sea creature
hermit crab				
marine animal				
sea fish				
skate				
spider				
<i>Animal details</i> .7%	.....		.....	<i>Animal details</i> 7%
face of horsefly				head of fly part of animal

CARD VIII-W—Continued

<i>Animal objects</i> 3%		<i>Animal objects</i> 4%	
fossil of shell		shell of crab	
sea shell			
<i>Architecture</i> .7%			
Chinese pagoda			
<i>Art</i> 4%		<i>Art</i> 5%	
design		design	
painting			
picture			
<i>Color</i> 2%			
(color naming)			
<i>Fire, etc.</i> 2%			
fire and smoke			
skyrocket			
<i>Human beings</i> 2%			
madman			
sorcerer from			
"Arabian Nights"			
<i>Human details</i> 2%		<i>Human details</i> 5%	
face of oriental		Cellini's	
face of person		silhouette	
<i>Maps, etc.</i> 14%		<i>Maps, etc.</i> 10%	
chart (anatomical)		anatomical	
map		drawing	
slide		slide of plant	
<i>Natural objects</i> 3%		<i>Natural objects</i> 5%	
aquatic scene		fairy scene and	
coral reef		cave	
fountain			
pastoral scene			
<i>Objects</i> 32%		<i>Objects</i> 32%	
bowl		bowl	
bowl with ice cream		coat of arms	
brooch		metal work	
Chinese decoration		pyramid of	
{coat of arms (23%)		figures	
{crest		tapestry	
crown		trophy	
doodling			
		<i>Objects</i> 11%	
		crest	
		jewelry	

CARD VIII-W—Continued

emblem			
insignia			
jewel			
machine (Rube Goldberg)			
<i>Plants, etc.</i>	<i>Plants, etc.</i>		<i>Plants, etc.</i>
7%	5%		14%
center portion of flower	flower		flower
flower			leaf
Japanese garden			orchid
orchid			sea growth
sweet pea			
tulip			
.....	.....	.....	<i>Signs and Symbols</i>
			4%
			symbol of club
<i>Symbolism</i>	.....	.....	<i>Symbolism</i>
2%			7%
cool breeze blowing			concept of life
represents Russian army driving out foe			life plunging to death
something compelling			
<i>X-ray</i>	.....	.....	<i>X-ray</i>
.7%			4%
x-ray			x-ray

W'

W' = 23 W' % = 4	W' = 1 W' % = 1	W' = 3 W' % = 4	W' = 2 W' % = 2
<i>Anatomy (animal)</i>	<i>Anatomy (animal)</i>	.....
22%		33%	
mouth of animal		skeleton of	
skeleton of animal		butterfly	
spinal cavity of cricket			
spinal cavity of fish			
.....	<i>Anatomy (embryo.)</i>
<i>Animal objects</i>			50%
4%			embryo of fish
coral			
<i>Anatomy (human)</i>	<i>Anatomy (human)</i>	.....
4%		67%	
thoracic cavity		chest and	
		stomach	
		trunk	
<i>Animals</i>
13%			
(Winged)			
(4%)			
butterfly			

CARD VIII-W'—Continued

<i>(Other than winged)</i> (9%)			
animals			
seafish			
<i>Architecture</i> 4%	.....	.....	.....
castle on hill			
<i>Human beings</i> 9%	.....	.....	.....
children around a tree			
women			
.....	.....	.....	<i>Human details</i> 50% face
<i>Maps, etc.</i> 9%	.....	.....	.....
chart (anatomical)			
<i>Objects</i> 22%	.....	.....	.....
food			
paint			
sailing vessel			
shield			
ship			
<i>Plants, etc.</i> 4%	.....	.....	.....
flower			
.....	<i>Signs and symbols</i> 100% signs of zodiac	.....	.....
<i>X-ray</i> 9%	.....	.....	.....
x-ray of throat			
x-ray of upper part			

D 1

D1 = 192 D1% = 32	D1 = 28 D1% = 31	D1 = 27 D1% = 40	D1 = 30 D1% = 28
<i>Anatomy (animal)</i> .5%	.....	.....	.....
skeleton of animal			
<i>Anatomy (embryo.)</i> 2%			
embryo			
<i>Anatomy (human)</i> 1%			
kidney			
section through body			

CONTENT OF RESPONSES

359

CARD VIII-D 1—Continued

<i>Animals</i> 95% (<i>Winged</i>) (2%)	<i>Animals</i> 93% (<i>Winged</i>) (11%)	<i>Animals</i> 96%	<i>Animals</i> 97% (<i>Winged</i>) (3%)
bats	bug		birds
birds	grasshopper		
flies	insect		
insects			
(<i>Other than winged</i>) (93%)	(<i>Other than winged</i>) (82%)	(<i>Other than winged</i>) (96%)	(<i>Other than winged</i>) (93%)
animals (17%)	animal	animals	animals
bears (17%)	beaver	bears	bears
beavers	cats	beavers	beavers
boars	fish	cats	boars
bulls	lizards	foxes	chameleons
cats	moles	frogs	cows
chameleons	mice	guinea pigs	coyotes
dogs	parrots	mice	foxes
elephants (pink)	polar bear	moles	lambs
fishes	prehistoric	penguins	mice
frogs	animal	rats	moles
gophers	rats		pests
ground hogs	reptiles		rats
guinea pigs	toad		reptiles
lions	white rat		rodents
lizards			
mice			
prehistoric animals			
rats (13%)			
sloths			
squirrels			
tadpoles			
roads			
wolfs			
woodchucks			
.....	.....	<i>Animal details</i> 4%	.....
		claws of lobster	
.....	<i>Animal objects</i> 4%	.....	.....
	fishing bait		
.....	.....	.....	<i>Human beings</i> 3%
			girls
<i>Natural objects</i> .5%	.....	.....	.....
stones			
<i>Objects</i> .5%	.....	.....	.....
crest			
<i>Plants, etc.</i> .5%	<i>Plants, etc.</i> 4%	.....	.....
parsnips	carrots		

CARD VIII—Continued

D 2

D2 = 64 D2% = 11	D2 = 18 D2% = 20	D2 = 6 D2% = 9	D2 = 13 D2% = 12
.....	<i>Anatomy (animal)</i> 6% lung of pig	.....	.....
<i>Anatomy (embryo.)</i> 2% embryo	.....	.....	.....
<i>Anatomy (human)</i> 3% kidneys pelvic bones	<i>Anatomy (human)</i> 6% vertebra	.....	<i>Anatomy (human)</i> 23% blood kidneys pelvis
<i>Animals</i> 52% (Winged) (44%) butterfly (44%) (Other than winged) (8%) frog	<i>Animals</i> 56% (Winged) (50%) butterfly (Other than winged) (6%) bears	<i>Animals</i> 33% (Other than winged) (33%) frogs	<i>Animals</i> 39% (Winged) (31%) butterfly (Other than winged) (8%) jellyfish
<i>Animal details</i> 3% face of cat face of donkey	.....	.....	.....
<i>Fire, etc.</i> 3% fire	.....	<i>Fire, etc.</i> 17% furnace	.....
<i>Human beings</i> 2% tramp	.....	.....	.....
<i>Maps, etc.</i> 2% slide	.....	.....	.....
<i>Natural objects</i> 11% precious stone rock sea scene stones	.....	<i>Natural objects</i> 17% ice	.....
<i>Objects</i> 2% beef steak	<i>Objects</i> 6% beef steak	.....	<i>Objects</i> 15% palette precious stones
<i>Plants, etc.</i> 22% flower leaf marine growth	<i>Plants, etc.</i> 28% flower leaf lily	<i>Plants, etc.</i> 33% leaf lily	<i>Plants, etc.</i> 23% flower leaves morning glory

CARD VIII—Continued

D 3

D3 = 51 D3 % = 8	D3 = 3 D3 % = 3	D3 = 6 D3 % = 9	D3 = 9 D3 % = 8
<i>Anatomy (human)</i> 2%	.....	.....	.....
cell			
<i>Animals</i> 43 % (<i>Winged</i>) (4 %)	<i>Animals</i> 33 %	<i>Animals</i> 67 % (<i>Winged</i>) (17 %)	<i>Animals</i> 22 %
butterfly		penguin	
dragonfly			
(<i>Other than winged</i>) (39 %)	(<i>Other than winged</i>) (33 %)	(<i>Other than winged</i>) (50 %)	(<i>Other than winged</i>) (22 %)
creature	greyhounds	dog	octopus
devilfish		frog	spider
dragon			
frog			
lizard			
louse			
monster			
octopus			
scorpion			
spider			
unicorn			
<i>Animal details</i> 2%			
wings			
<i>Architecture</i> 12 %	.....	.....	<i>Architecture</i> 11 %
castle			pagoda
castle on hill			
Chinese pagoda			
hut			
Japanese home			
roof of house			
<i>Human beings</i> 6%	.....	.....	.....
devil			
men			
women			
<i>Maps, etc.</i> 4%	.....	.....	<i>Maps, etc.</i> 11 %
map of England			maps
map of Labrador			
<i>Natural objects</i> 4%	.....	.....	<i>Natural objects</i> 11 %
froth			mountain
island			

CARD VIII-D 3—Continued

<i>Objects</i> 10%	<i>Objects</i> 67%	.....	<i>Objects</i> 22%
bird house	part of airplane		bomb
cap	Liberty Bell		tent
crown			
dunce cap			
tent			
<i>Plants, etc.</i> 18%		<i>Plants, etc.</i> 33%	<i>Plants, etc.</i> 22%
leaf		tree	seaweed
shrubby			tree
tree			

D 4

D4 = 40 D4% = 7	D4 = 6 D4% = 7	D4 = 1 D4% = 1	D4 = 6 D4% = 6
<i>Anatomy</i> 3%	.....	.....	<i>Anatomy (human)</i> 17%
hemorrhage			ribs
<i>Animals</i> 13%	<i>Animals</i> 50%	.....	.....
(Winged)	(Winged)		
(3%)	(50%)		
butterfly	bat		
(Other than winged)	butterfly		
(10%)			
animals			
crab			
jellyfish			
.....	.....	.....	<i>Animal objects</i> 17%
<i>Natural objects</i> 3%	.....	.....	shell
ice			.....
<i>Objects</i> 80%	<i>Objects</i> 33%	<i>Objects</i> 100%	<i>Objects</i> 67%
barrels	flags	flag	jacket
book			pillows
crown			shoulder pad
cushions			
dress (satin)			
flags			
football pad			
heraldic sign			
lingerie			
material for dress			
pillows			
squares			
<i>Plants, etc.</i> 3%	<i>Plants, etc.</i> 17%	.....	.....
leaves	leaf		

CARD VIII—Continued

D 5

D5 = 22 D5% = 4	D5 = 6 D5% = 7	.....	D5 = 5 D5% = 5
<i>Anatomy (animal)</i> 14% skeleton of animal skeleton of frog skeleton of invertebrate	<i>Anatomy (animal)</i> 17% skeleton of fish	.....	.....
<i>Anatomy (human)</i> 36% ribs skeleton vertebral column vertebral column and nerves	<i>Anatomy (human)</i> 33% ribs skeleton		<i>Anatomy (human)</i> 80% ribs skeleton vertebra
<i>Animals</i> 5% fish	<i>Animals</i> 17% skate	.....	.....
<i>Animal details</i> 14% face of dog head of bison head of cow	<i>Animal details</i> 17% jaws of alligator	.....	.....
<i>Animal objects</i> 5% sea shell	.....	.....	.....
<i>Human details</i> 14% face head of ghost teeth	<i>Human details</i> 17% teeth	.....	.....
<i>Objects</i> 9% arrow roasted chicken	.....		<i>Objects</i> 20% laced garment
<i>Plants, etc.</i> 5% flower	.....	.....	.....

D 6

D6 = 14 D6% = 2	D6 = 1 D6% = 1	D6 = 2 D6% = 2
<i>Anatomy (human)</i> 14% cytoplasm pelvic girdle	

CARD VIII-D 6—Continued

.....	<i>Animals</i> 100% frogs	<i>Animals</i> 50% (Winged) (50%) butterfly
<i>Animal details</i> 50% head of frog	.....	.....
<i>Natural objects</i> 14% boulder stone	.....	.....
<i>Objects</i> 7% flag	.....	<i>Objects</i> 50% ham
<i>Plants, etc.</i> 14% flower tulip		

D 7

D7 = 5 D7 % = .8	.....	.....	D7 = 1 D7 % = .9
<i>Animal details</i> 20% head of pig			<i>Animal details</i> 100% wings of butterfly
<i>Color</i> 20% (color naming)			.....
<i>Natural objects</i> 60% crystal quartz stone			.....

D 1 + D 2

.....	.....	.....	D1 + D2 = 1 D1 + D2 % = .9
			<i>Plants, etc.</i> 100% flower

CARD VIII—Continued

D 3 + D 5

D3 + D5 = 4 D3 + D5 % = .6	.....	.....
<i>Anatomy (animal)</i> 25 % bone of chicken		
<i>Anatomy (human)</i> 25 % vertebra		
<i>Objects</i> 25 % umbrella		
<i>X-ray</i> 25 % x-ray of breast		

D 4 + D 5

D4 + D5 = 6 D4 + D5 % = .9	D4 + D5 = 4 D4 + D5 % = .4
<i>Anatomy (human)</i> 17 % skeleton		.....
<i>Animal</i> 17 % crayfish		.....
<i>Human details</i> 33 % head and shoulders of person .		.....
<i>Objects</i> 33 % corset		<i>Objects</i> 100 % corset

D 3 + D 4 + D 5

D3 + D4 + D5 = 18 D3 + D4 + D5 % = 3	D3 + D4 + D5 = 6 D3 + D4 + D5 % = 7	D3 + D4 + D5 = 1 D3 + D4 + D5 % = 1	D3 + D4 + D5 = 2 D3 + D4 + D5 % = 2
<i>Anatomy (animal)</i> 6 % dissected frog	<i>Anatomy (animal)</i> 33 % skeleton of bird skeleton of sea fish	.....	.....

CARD VIII-D 3 + D 4 + D 5—Continued

<i>Anatomy (human)</i> 17% backbone and ribs pelvis and coccyx skeleton	<i>Anatomy (human)</i> 17% skeleton	<i>Anatomy</i> 100% bones	.....
<i>Animals</i> 11% bloodsucker frog.....	.....	.....	.....
<i>Architecture</i> 17% building castle temple	.....	.....	.....
<i>Human beings</i> 6% ghostly figure	.....	.....	.....
<i>Human details</i> 11% head and shoulders of man shoulders	.....	.....	.....
<i>Maps, etc.</i> 6% topographical map	.....	.....	.....
<i>Objects</i> 22% Chinese headdress crown sails of pirate ship	<i>Objects</i> 17% crown	.....	.....
<i>Plants, etc.</i> 6% tropical plant	<i>Plants, etc.</i> 17% autumn leaf <i>X-ray</i> 17% x-ray	.....	<i>Plants, etc.</i> 50% vegetable

D 4 + D 5 + D 6 + S

D4 + D5 + D6 + S = 1 D4 + D5 + D6 + S% = .1	.....	.....
<i>Anatomy (human)</i> 100% thoracic cavity		

CARD VIII—Continued

d 1			
d1 = 3	.....	.....	.....
d1% = .4			
<i>Animal details</i> 100% head of dog head of fox terrier head of pig			
d 2			
d2 = 4	.....	.....	.....
d2% = .6			
<i>Anatomy (human)</i> 50% medulla oblongata pubis <i>Maps, etc.</i> 25% chart (anatomical) <i>Objects</i> 25% vase			
dd			
dd = 8	.....	.....	.....
dd% = 1			
<i>Anatomy</i> 13% bone <i>Animals</i> 50% (<i>Winged</i>) (13%) grasshopper (<i>Other than winged</i>) (38%) animal gopher squirrel <i>Human beings</i> 13% people <i>Objects</i> 25% coat hook forceps			

CARD VIII—Continued

di			
di = 4 di % = .6	.....	.....	.....
Human beings 25 % child			
Human details 25 % eyes			
Objects 50 % hieroglyphics object (ghostly)			
dr			
dr = 21 dr % = 3	.....	dr = 2 dr % = 3	dr = 1 dr % = .9
.....		Anatomy (animal) 50 % skeleton of fish	.....
Anatomy (embryo.) 5 % embryo fold		.....	.....
Anatomy (human) 19 % ganglion joints pulled apart nerve root		.....	Anatomy (human) 100 % part of human
Animals 29 % animal bloodsucker caterpillar fish frog		Animals 50 % undersea creatures	.....
Animal details 5 % head of crayfish	.....	.....	.....
Architecture 5 % dome			
Art 5 % design			

CARD VIII-dr—Continued

<i>Human beings</i> 5% man diving <i>Human details</i> 5% head of Sherlock Holmes <i>Objects</i> 19% blowgun propeller shaft thermometer <i>Plants, etc.</i> 5% tree	
---	--

dr+S

dr+S=1 dr+S%=.1	dr+S=2 dr+S%=2
<i>Anatomy (human)</i> 100% skeleton	<i>Anatomy (human)</i> 100% throat vertebra

S

S=1 S%=.1	S=1 S%=1	S=2 S%=3
.....	<i>Animals</i> 100% sea horses	.....
<i>Human details</i> 100% head of Indian		<i>Human details</i> 50% teeth <i>Objects</i> 50% insignia	

CARD IX

COLLEGE AGE R = 550	ADULTS R = 78	W	PRISON INMATES R = 59	PSYCHOTICS AND PSYCHOPATHS R = 91
W = 99 W % = 18	W = 17 W % = 22		W = 20 W % = 34	W = 23 W % = 25
<i>Anatomy (animal)</i> 2 % inside of animal inside of cat	<i>Anatomy (animal)</i> 6 % entrails		.....	.....
<i>Anatomy (embryo.)</i> 1 % embryo	.....		.....	.....
<i>Anatomy (human)</i> 16 % abdomen artery chest cavity hip bones organs of person scapula vertebra	<i>Anatomy (human)</i> 6 % kidney and liver		<i>Anatomy (human)</i> 15 % "anatomy" bones spinal column, crushed	<i>Anatomy (human)</i> 13 % insides intestines
<i>Animals</i> 9 % (<i>Winged</i>) (1 %) winged beasts (<i>Other than winged</i>) (8 %) animals bulls dragons fish jellyfish reptile sea horses	<i>Animals</i> 12 % (<i>Other than winged</i>) 12 % crayfish dragons		<i>Animals</i> 20 % (<i>Winged</i>) (5 %) bug (<i>Other than winged</i>) (15 %) crustacean dragon	<i>Animals</i> 9 % (<i>Other than winged</i>) 9 % fiery horse marine animal
<i>Animal details</i> 2 % face of owl wings of bird	.....		.....	.....
<i>Animal objects</i> 1 % coral	.....		.....	.....
<i>Architecture</i> 1 % entrance to tomb	.....		.....	.....

CARD IX-W—Continued

<p><i>Art</i> 6% cartoon scene in technicolor surrealist art surrealist painting</p>	<p>.....</p>	<p><i>Art</i> 5% surrealist painting</p>	<p><i>Art</i> 9% piece of art design</p>
<p><i>Color</i> 1% (color naming)</p>	<p>.....</p>	<p>.....</p>	<p>.....</p>
<p><i>Fire, etc.</i> 15% chemical experiment (explosion) explosion fire flames volcano</p>	<p>.....</p>	<p><i>Fire, etc.</i> 5% fire and smoke</p>	<p><i>Fire, etc.</i> 9% explosion volcano exploding</p>
<p><i>Human beings</i> 7% ballet scene baseball catcher characters on horseback farmers talking over fence men riding and holding something priests in flames watches</p>	<p>.....</p>	<p>.....</p>	<p>.....</p>
<p><i>Maps, etc.</i> 7% diagram of human anatomy map maps of Norway slide topographical map</p>	<p><i>Maps, etc.</i> 18% anatomical drawing map slide</p>	<p><i>Maps, etc.</i> 10% anatomical chart</p>	<p><i>Maps, etc.</i> 4% medical drawing</p>
<p><i>Natural objects</i> 11% deep sea formation fountain gases geyser incense smoke</p>	<p>.....</p>	<p><i>Natural objects</i> 20% crater golf course stones tropics</p>	<p><i>Natural objects</i> 9% gas sunset</p>
<p><i>Objects</i> 9% candle in ornamental globe convertor</p>	<p><i>Objects</i> 53% candle and holder chandelier coat of arms</p>	<p><i>Objects</i> 10% crest jewelry</p>	<p><i>Objects</i> 9% coat of arms mask</p>

CARD IX-W—Continued

crest	emblem		
emblem of K.K.K.	harp		
statue	mask		
tanks	melting solids		
vase	saltshaker		
<i>Plants, etc.</i>	<i>Plants, etc.</i>		<i>Plants, etc.</i>
5%	6%	.....	35%
flowers	flower		orchid
plant			plants
seaweed			sea growth
tree			
<i>Signs and Symbols</i>	.....	.....	.....
1%			
symbol			
<i>Symbolism</i>	.....	.....	<i>Symbolism</i>
4%			4%
elements—fire, water,			Spring and Fall
earth, air			
nightmare			
subjugation of a great			
and glorious race			
unseen powers brew-			
ing			
.....	.....	X-ray	.....
		15%	
		x-ray	
<i>Miscellaneous</i>			
1%			
symmetry			

W'

$W' = 7$	$W' = 2$	.....	$W' = 1$
$W'\% = 1$	$W'\% = 3$		$W'\% = 1$
<i>Anatomy (animal)</i>	.....		.....
14%			
remains of animal			
<i>Anatomy (human)</i>	.....		.....
29%			
organs of person			
skeleton of pelvis and			
spine			
<i>Animal details</i>	.....		.....
14%			
head of pig			
<i>Fire, etc.</i>	<i>Fire, etc.</i>		.....
14%	50%		
fire	fire and smoke		

CARD IX-W'—Continued

<i>Maps, etc.</i> 14%	.....	.....
map		
<i>Natural objects</i> 14%	<i>Natural objects</i> 50%	.....
fountain	clouds and sunset	
.....	.....	<i>Objects</i> 100%
		feminist's hat

D 1

D1 = 116 D1% = 21	D1 = 14 D1% = 18	D1 = 15 D1% = 25	D1 = 18 D1% = 20
<i>Anatomy (human)</i> 27%	<i>Anatomy (human)</i> 7%	<i>Anatomy (human)</i> 20%	<i>Anatomy (human)</i> 28%
bone	clavicle	abdomen	insides
bladder		kidney	lungs
gall bladder		pelvis	stomach
heart			vessels
heart and veins			
kidney			
liver			
lungs			
nerve			
nerve fiber			
nerve tissue			
organs			
pelvic bone			
scapula			
stomach			
veins			
<i>Animals</i> 30%	<i>Animals</i> 21%	<i>Animals</i> 13%	<i>Animals</i> 28%
(<i>Winged</i>) (3%)			(<i>Winged</i>) (11%)
bird			bat
insect			butterfly
rooster			
(<i>Other than winged</i>) (28%)	(<i>Other than winged</i>) (21%)	(<i>Other than winged</i>) (13%)	(<i>Other than winged</i>) (17%)
animal	animals	bears	animal
bear	buffalo	lions	elephants
dogs	rabbits		pigs
dragon			
elephant			
fish			
horses			
larva			
lion			
moose			
oyster			
parasite			

CARD IX-D 1—Continued

pigs			
rhinoceros			
sea horses			
undersea life			
Winnie the Pooh			
<i>Animal details</i>	<i>Animal details</i>	<i>Animal details</i>	.....
3%	21%	13%	
head of animal	antlers of moose	antlers	
head of boar	head of dog	head of moose	
	head of moose		
<i>Animal objects</i>	.....	.....	<i>Animal objects</i>
.8%			6%
coral			hide
.....	.....	<i>Fire, etc.</i>	.....
		7%	
		fire	
<i>Human beings</i>	.....	.....	<i>Human beings</i>
3%			11%
girl			men
person			soldiers
woman			
<i>Human details</i>	<i>Human details</i>	<i>Human details</i>	<i>Human details</i>
10%	21%	40%	11%
faces	face	faces	faces
heads	head		profiles
<i>Maps, etc.</i>	.....	<i>Maps, etc.</i>	.....
3%		7%	
map of Canada		anatomical	
map of Norway		chart	
map of Quebec			
<i>Natural objects</i>	.....	.....	.....
6%			
clouds			
islands			
rock			
smoke			
<i>Objects</i>	<i>Objects</i>	.....	<i>Objects</i>
10%	29%		11%
bag pipe	cooked liver		pastry
decoration	dumplings		slag from foundry
face of gargoyle	rubber		
food	water skins		
gas mask			
pipes			
pitchers			
planes			
shot			
tank			

CARD IX-D 1—Continued

<i>Plants, etc.</i> 8%	.....	.....	<i>Plants, etc.</i> 6%
algae			moss
cactus			
flowers			
fungus			
leaves			
plants			
underwater plants			

D 2

D2=97 D2%=18	D2=11 D2%=14	D2= 8 D2%=14	D2=15 D2%=16
.....	<i>Anatomy (embryo.)</i> 9% embryo	.....	.....
<i>Anatomy (human)</i> 3%	.....	.....	<i>Anatomy (human)</i> 7% hearts
artery			
nerve tissue			
tissue			
<i>Animals</i> 32% (<i>Winged</i>) (1%)	<i>Animals</i> 55%	<i>Animals</i> 38%	<i>Animals</i> 40%
birds			
(<i>Other than winged</i>) (31%)			
crabs	mouse	dragon	crabs
crayfish	reindeer	fish	dragons
dragon	sea horses		lobster
fish	sea lion		reindeer
gold fish			sea horses
guinea pig			stags
jungle cat			
mice			
moose			
pig			
scorpion			
shrimp			
squirrels			
stags			
unicorn			
<i>Animal details</i> 10%	<i>Animal details</i> 27%	<i>Animal details</i> 13%	.....
head of animal	antlers of moose	head of elk	
head of donkey	head of stag		
head of moose	heads of elks		
horns of reindeer			
wings of bird			
wings of eagle			

CARD IX-D 2—Continued

.....	.....	.....	<i>Animal objects</i> 7% shad roe
<i>Fire, etc.</i> 10%	.....	<i>Fire, etc.</i> 13%	.....
fire flames		fire	
<i>Human beings</i> 33%	<i>Human beings</i> 9%	<i>Human beings</i> 38%	<i>Human beings</i> 33%
angels characters chiefs clansmen clowns dancers dwarfs farmers goblins Jack Frost jugglers knights men people Uriah Heep witches	dwarf	figures hooded figures witches	clowns K.K.K. men people
<i>Maps, etc.</i> 4%	.....	.....	.....
map map of Norway			
<i>Natural objects</i> 2%	.....	.....	<i>Natural objects</i> 7%
clouds stellar body			sand
<i>Objects</i> 1%	.....	.....	.....
bomber			
<i>Plants, etc.</i> 4%	.....	.....	<i>Plants, etc.</i> 7%
flower			trees

D 3

D3 = 1 D1% = .1	.....	.....
<i>Animal details</i> 100%		
head of boar		

CARD IX—Continued

D 4

D4=12 D4%= 2	D4=2 D4%=3	.....	D4=2 D4%=2
<i>Anatomy (embryo.)</i> 8%	.....		.....
foetus			
<i>Anatomy (human)</i> 8%	.....		.....
part of the anatomy			
<i>Human details</i> 42%	.....		<i>Human details</i> 50%
face of man			face of oriental
head (bleeding)			
head of man			
.....	.....		<i>Natural objects</i> 50%
			bloody clouds
<i>Objects</i> 17%	<i>Objects</i> 50%		.....
pillow	beef liver		
snowball			
<i>Plants, etc.</i> 25%	<i>Plants, etc.</i> 50%		.....
apples	apple		
plant			

D 5

D5=5 D5%=.9	D5=7 D5%=9	D5=1 D5%=2
<i>Animals</i> 20%	.....		.....
skate			
	<i>Natural objects</i> 14%		.....
	fountain		
<i>Objects</i> 60%	<i>Objects</i> 86%	<i>Objects</i> 100%	
candle and stand	candle	burner	
incense burner	candlestick		
	pedestal		
<i>Plants, etc.</i> 20%	.....		.....
tree			

CARD IX—Continued

D 6

D6 = 51 D6% = 9		D6 = 6 D6% = 8		D6 = 3 D6% = 5		D6 = 11 D6% = 12	
<i>Anatomy (embryo.)</i> 4%		.....		.....		.....
embryo							
foetus							
<i>Anatomy (human)</i> 14%		<i>Anatomy (human)</i> 17%		. . . . .		<i>Anatomy (human)</i> 36%	
blood		cells of brain				blood	
blood cells						kidneys	
chromosomes						tongue	
kidneys							
ovaries							
part of anatomy							
section of brain							
<i>Animals</i> 8%		<i>Animals</i> 17%		.....		<i>Animals</i> 9%	
<i>(Winged)</i> (2%)		<i>(Winged)</i> (17%)					
owl		owl				<i>(Other than winged)</i> (9%)	
<i>(Other than winged)</i> (6%)						horseshoe crab	
monster							
sea fish							
<i>Animal objects</i> 2%		<i>Animal objects</i> 17%		.....		<i>Animal details</i> 18%	
coral		sponges				head of insect	
						wings	
<i>Fire, etc.</i> 10%		.....		.....		<i>Fire, etc.</i> 9%	
fire						explosion	
flames							
<i>Human beings</i> 14%		.....		<i>Human beings</i> 33%		<i>Human beings</i> 9%	
babies				child looking in		audience	
infants				pool			
men							
people							
<i>Natural objects</i> 16%		.....		.....		<i>Natural objects</i> 9%	
clouds						mountains in	
pebbles						Arizona	
smoke							
vapor							
<i>Objects</i> 14%		<i>Objects</i> 33%		<i>Objects</i> 33%		<i>Objects</i> 9%	
bricks		boxing gloves		retorts holding		collar and shoul-	
cotton (bloody)		steak		liquid		ders of uniform	

CARD IX-D 6—Continued

<p>pipes pots pottery powder puff weights</p>		
<p><i>Plants, etc.</i> 20%</p> <p>apples cherries gourds pears potatoes</p>	<p><i>Plants, etc.</i> 17%</p> <p>apples</p>	<p><i>Plants, etc.</i> 33%</p> <p>apples</p>

D 7

D7 = 27 D7 % = 5	D7 = 2 D7 % = 3	D7 = 2 D7 % = 3	D7 = 3 D7 % = 3
<p><i>Anatomy (animal)</i> 7%</p> <p>backbone of animal spinal cord of caterpillar</p>	.....	.....	.....
<p><i>Anatomy (embryo.)</i> 4%</p> <p>notochord</p>	.....	.....	.....
<p><i>Anatomy (human)</i> 19%</p> <p>aesophagus incision nerve tissue skeleton of cord spinal column</p>	<p><i>Anatomy (human)</i> 50%</p> <p>spinal cord</p>	.....	.....
<p><i>Animals</i> 4%</p> <p>centipede</p>	.....	.....	.....
<p><i>Fire, etc.</i> 7%</p> <p>rocket shot (from gun)</p>	.....	.....	<p><i>Fire, etc.</i> 33%</p> <p>flaming sword</p>
<p><i>Natural objects</i> 26%</p> <p>fountain geyser incense (smoke) smoke</p>	.....	.....	<p><i>Natural objects</i> 33%</p> <p>fountain</p>
<p><i>Objects</i> 26%</p> <p>arrow candle cannon pole rope</p>	<p><i>Objects</i> 50%</p> <p>stick</p>	<p><i>Objects</i> 100%</p> <p>candlestick sword</p>

CARD IX-D 7—Continued

<i>Plants, etc.</i> 7% plant seaweed stalk X-ray 33% x-ray
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D 8

D8 = 2 D8% = .3
<i>Anatomy (human)</i> 50% scapula <i>Animals</i> 50% crab	

D 9

D9 = 22 D9% = 4	D9 = 3 D9% = 4	D9 = 2 D9% = 3	D9 = 2 D9% = 2
<i>Anatomy (animal)</i> 5% skull of mouse	.....	.....	.....
<i>Anatomy (human)</i> 18% cell skull of person	.....	<i>Anatomy (human)</i> 50% skull	.....
<i>Animals</i> 5% fish	.....	.....	<i>Animals</i> 50% devil fish
<i>Animal details</i> 45% face of animal face of cat face of fish face of monkey face of rabbit	<i>Animal details</i> 67% head of flat-fish head of gold-fish	.....	.....
<i>Human details</i> 9% head of man	<i>Human details</i> 33% eyes	.....	<i>Human details</i> 50% face
<i>Objects</i> 18% gas mask lamp mask urn	.....	<i>Objects</i> 50% mask	.....

CARD IX—Continued

D 10

D10 = 12 D10% = 2	D10 = 2 D10% = 3
<i>Natural objects</i> 8% pool of water <i>Objects</i> 92% ball glass lantern vase world	 <i>Objects</i> 100% bulb lamp

D 1 + D 2

D1 + D2 = 12 D1 + D2% = 2
<i>Animals</i> 50% bull dog with bird in mouth dragon <i>Animal details</i> 8% head of animal <i>Human beings</i> 17% beings from another world girls <i>Maps, etc.</i> 8% medical chart <i>Natural objects</i> 8% sunset <i>Plants, etc.</i> 8% flower	

D 7 + D 8

D7 + D8 = 1 D7 + D8% = .1
<i>Anatomy (embryo.)</i> 100% embryo	

CARD IX—Continued

D 2 + D 10

.....	.....	.....	D2+D10=1 D2+D10%=1
			<i>Natural objects</i> 100% water

D 5 + D 10

D5+D10=1 D5+D10%=.1	.....	.....	.....
<i>Natural objects</i> 100% fountain			

D 7 + D 10

D7+D10=1 D7+D10%=.1	.....	.....	.....
<i>Objects</i> 100% oil lamp			

D 2 + D 7 + D 10

D2+D7+D10=1 D2+D7+D10%=.1	.....	.....	.....
<i>Natural objects</i> 100% water and water jet			

d1=8
d1%=1

d1=1
d1%=1

d 1.....

Animal details
38%
claws
horns of reindeer

Animal details
100%
head of deer

Human beings
25%
figures

Human details
13%
Roosevelt's smile

Objects
25%
faucets
shoes

CARD IX—Continued

d 2		
d2 = 6 d2 % = 1	d2 = 2 d2 % = 3	.....
<i>Anatomy (human)</i> 17 % glands	<i>Anatomy (human)</i> 50 % incision	
<i>Human details</i> 83 % eyes	<i>Objects</i> 50 % ship	
d3 = 6 d3 % = 1	.....d 3.....	d3 = 1 d3 % = 1
<i>Animal details</i> 17 % legs of grasshopper		
<i>Architecture</i> 17 % bridge		
<i>Fire, etc.</i> 17 % flame		
<i>Human details</i> 17 % two hands folded		
<i>Objects</i> 33 % rope wands		<i>Objects</i> 100 % gun
d 1 + d 3		
d1 + d3 = 1 d1 + d3 % = .1	d1 + d3 = 2 d1 + d3 % = 3	.....
.....	<i>Animal details</i> 100 % horns of deer	
<i>Human details</i> 100 % thumb and forefinger		
d 3 + S		
d3 + S = 2 d3 + S % = .3	.....	.....
<i>Anatomy (human)</i> 50 % eye		

CARD IX-di—Continued

Human details 13%			
eyes			
Natural objects 25%			
fountain			
Sex 13%			
genital organs			
dr			
dr = 41 dr% = 7	dr = 8 dr% = 10	dr = 5 dr% = 8	dr = 13 dr% = 14
Anatomy (animal) 2%	.....	.....	.....
bones of reptile			
Anatomy (human) 12%	Anatomy (human) 13%	.....	Anatomy (human) 15%
artery	vertebra		kidneys
bone			vertebra
Animals 29%	.....	Animals 40%	Animals 31%
(Winged) (5%)			(Winged) (8%)
eagle			owls
turkey			
(Other than winged) (24%)		(Other than winged) (40%)	(Other than winged) (23%)
dog		fish	crab
lion		horse	dragon
monster			rat
octopus			
rabbit			
sea-horse			
squirrel			
Animal details 7%	Animal details 50%	Animal details 20%	Animal details 15%
head of horse	head of dog	face of lion	face of cow
head of rabbit	horns of deer		face of dragon
nose of pig	pincers of cray- fish		
.....	.....	.....	Fire, etc. 8%
			fire
Human beings 7%	Human beings 13%	.....	Human beings 8%
figure in uniform	child		man
person			
man in "Buck Rogers" scene			

CARD IX-dr—Continued

<i>Human details</i> 12% face of butler face of W. C. Fields hand head of man head and shoulders 	<i>Maps, etc.</i> 13% map of Eastern U. S. <i>Natural objects</i> 2% gases <i>Objects</i> 17% andirons cannon chemical apparatus jacket statues wall <i>Signs and symbols</i> 5% "V" wings wings of victory <i>X-ray</i> 5% x-ray of sternum x-ray of vertebrate	<i>Human details</i> 20% face 	<i>Human details</i> 8% profile of man <i>Natural objects</i> 8% islands <i>Objects</i> 8% bombed tanks
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CARD X

COLLEGE AGE R=791	ADULTS R=138	W	PRISON INMATES R=100	PSYCHOTICS AND PSYCHOPATHS R=133
W=94 W%=12	W=14 W%=10		W=19 W%=19	W=21 W%=16
<i>Anatomy (animal)</i> 1% dissection of animal
<i>Anatomy (human)</i> 2% lungs and trachea vertebra		<i>Anatomy (human)</i> 16% spine stomach	<i>Anatomy (human)</i> 19% anatomy, colored pelvis tissue torso
<i>Animals</i> 26% (Winged) (14%) bugs cricket insects (Other than winged) (12%) animals animal battle animals in pool dragon lower forms of life marine zoo sea animals water animals worms		<i>Animals</i> 26% (Winged) (11%) bug insect (Other than winged) (16%) undersea life	<i>Animals</i> 24% (Winged) (5%) insects (Other than winged) (19%) chipmunk sea life sea serpents
<i>Animal objects</i> 2% coral shells		<i>Animal objects</i> 11% coral	.....
<i>Architecture</i> 3% bridges castle in sky World's Fair	<i>Architecture</i> 7% palace of king		.....	.....
<i>Art</i> 13% Chinese painting design painting painting by child

CARD X-W—Continued

<i>Color</i> 2% (color description) (color naming)	.....	.....	.....
.....	<i>Fire, etc.</i> 7% exploding bomb	.....	<i>Fire, etc.</i> 5% fireworks
<i>Human beings</i> 3% dance of Bacchus god jousting match	.....	<i>Human beings</i> 11% characters in review Jap as I would leave him	.....
<i>Maps, etc.</i> 10% chart (anatomical) slide slide (histological) slide in medical book slide in zoology book	<i>Maps, etc.</i> 29% map slide	<i>Maps, etc.</i> 16% map slide topographical map	<i>Maps, etc.</i> 5% slide
<i>Natural objects</i> 15% ant hill clouds floor of sea island formation land sea scene underwater scene waste land	<i>Natural objects</i> 7% undersea scene		<i>Natural objects</i> 10% coral reefs sunset
<i>Objects</i> 9% afghan crest idol light bulb object wall paper	<i>Objects</i> 36% horseshoe idol wall paper	<i>Objects</i> 11% wall paper	<i>Objects</i> 10% chandelier coat of arms
<i>Plants, etc.</i> 11% ferns Japanese garden leaves orchids rock garden seaweed tree tulip (cross section)	<i>Plants, etc.</i> 14% plant marine life plants	<i>Plants, etc.</i> 5% flowers	<i>Plants</i> 10% flowers garden
.....	.....	.....	<i>Signs and symbols</i> 5% signs of zodiac

CARD X-W—Continued

<i>Symbolism</i> 3% bad dream Gottterdammerung Utopia <i>Miscellaneous</i> 1% pageant	<i>Symbolism</i> 5% a dream	<i>Symbolism</i> 1+% angels of mercy gods on Olympus justice being bribed
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W'

W' = 21 W' % = 3	W' = 2 W' % = 1	W' = 1 W' % = 1	W' = 3 W' % = 2
<i>Anatomy (animal)</i> 5% body of animal	<i>Anatomy (animal)</i> 100% skeleton of marine creature
<i>Anatomy (human)</i> 5% lungs and trachea	.....	.....	.....
<i>Animals</i> 19% (Winged) (5%) butterfly (Other than winged) (14%) animals bacteria creatures	<i>Animals</i> 50% aquarium	.....	<i>Animals</i> 33% sea life
<i>Architecture</i> 38% estate monument Taj Mahal temple	<i>Architecture</i> 50% temple	.....	.....
<i>Human beings</i> 10% figures (persons) oriental deity	.....	.....	<i>Human beings</i> 33% ghosts
<i>Natural objects</i> 5% bank of river	.....	.....	.....
<i>Objects</i> 19% Christmas decorations wedding bells .....	.....	.....	<i>Plants, etc.</i> 33% plant

CARD X—Continued

WS

.....	WS=2 WS%=1	.....
	<i>Maps, etc.</i> 50% map of harbor	
	<i>Natural objects</i> 50% bay and setting sun	

D 1

D1=128 D1%= 16	D1=13 D1%= 9	D1=24 D1%=24	D1=26 D1%=20
<i>Anatomy (animal)</i> .7%	.....	.....	.....
skeleton of butterfly			
<i>Anatomy (human)</i> 5%	.....	.....	<i>Anatomy (human)</i> 4%
alveoli			vertebra
cells			
nerve cells			
neurons			
<i>Animals</i> 81%	<i>Animals</i> 85%	<i>Animals</i> 96%	<i>Animals</i> 81%
(Winged) (7%)		(Winged) (8%)	
bug		bugs	
insect			
(Other than winged) (74%)	(Other than winged) (85%)	(Other than winged) (88%)	(Other than winged) (81%)
crab (32%)	crab	crabs	centipede
crayfish	crayfish	fish	crab
dragon	spider	horse (with rider)	"crab bird"
		lobster	"crawls"
		octopus	creature
		spider	monster
			octopus
			spider
lobster			
octopus			
Portuguese man-of-war			
sea fish			
shell fish			
spider (23%)			
starfish			
tortoise			
<i>Animal objects</i> .7%	.....	.....	<i>Animal objects</i> 4%
sponge			coral

CARD X-D 1—Continued

<i>Human beings</i> 5%	<i>Human beings</i> 8%	.....	<i>Human beings</i> 4%
devils	witch		phantoms
figures			
genie			
witch doctor			
<i>Maps, etc.</i> .7%	.....	.....	.....
slide			
.....	
<i>Objects</i> .7%	.....	.....	<i>Objects</i> 4%
broom			tea-pot on embers
<i>Plants, etc.</i> 5%	<i>Plants, etc.</i> 8%	<i>Plants, etc.</i> 4%	<i>Plants, etc.</i> 4%
flowers	plant	roots	gentian
fungus			
roots of plant			
seaweed			

D 2

D2 = 25 D2% = 3	D2 = 3 D2% = 3	D2 = 1 D2% = .7
<i>Anatomy (human)</i> 4%		.....	.....
vas diferens			
<i>Animals</i> 84%		<i>Animals</i> 100%	<i>Aminals</i> 100%
<i>Winged</i> (4%)			
insects			
(<i>Other than winged</i>) (80%)			
caterpillars		caterpillars	inch worms
eels		eels	
lizards		worms	
snails			
snakes			
worms			
<i>Human beings</i> 8%		.....	.....
ladies			
spooks			
<i>Objects</i> 4%		.....	.....
curtains			

CARD X—Continued

D 3

D3 = 53 D3% = 7	D3 = 12 D3% = 9	D3 = 5 D3% = 5	D3 = 11 D3% = 8
<i>Anatomy (animal)</i> 6%	.....	.....	.....
brain of frog			
lungs of frog			
skeleton of bears with torpedo			
<i>Anatomy (human)</i> 11%	<i>Anatomy (human)</i> 17%	<i>Anatomy (human)</i> 60%	.....
bones	spinal column	sternum	
lungs and trachea		stomach	
spinal cord		throat	
windpipe			
vertebra			
<i>Animals</i> 47% (Winged) (15%)	<i>Animals</i> 25%	<i>Animals</i> 20% (Winged) (20%)	<i>Animals</i> 45% (Winged) (27%)
beetles		bugs	bugs
bugs			grasshopper
crickets			mantis
flies			
(Other than winged) (32%)			(Other than winged) (18%)
animals with pole	crab		mice
caterpillars	fish		shrimp
cockroaches	octopus		
crabs			
fishes			
lobsters			
monkeys			
mouse-like animals			
<i>Architecture</i> 13%	<i>Architecture</i> 25%	.....	<i>Architecture</i> 18%
temple	Eiffel Tower		Eiffel Tower
Tower	temple		monument
.....	<i>Art</i> 8%	.....	.....
	drawing (mechanical)		
<i>Human beings</i> 6%	<i>Human beings</i> 8%	.....	.....
lady	figures		
man			
people			

393

<i>Human details</i> 2%	<i>Human details</i> 8%
head of Hindenburg	heads of divers		
.....	<i>Natural objects</i> 9%
			coral reefs
<i>Objects</i> 4%	<i>Objects</i> 8%	<i>Objects</i> 20%	<i>Objects</i> 17%
cannon	anti-aircraft gun	robot	chandelier
Christmas bells			stove with smoke stack
<i>Plants, etc.</i> 6%
branch of tree with acorns			
sea anemones			
tree			
<i>X-ray</i> 6%			<i>Symbolism</i> 8%
x-ray			prohibition
x-ray of sternum			

D4 = 52 D4% = 7	D4 = 6 D4% = 4	D4 = 6 D4% = 6	D4 = 2 D4% = 2
<i>Anatomy (human)</i> 4%
kidneys			
stomach			
<i>Animals</i> 79% (Winged) (48%)	<i>Animals</i> 83% (Winged) (17%)	<i>Animals</i> 67% (Winged) (67%)	<i>Animals</i> 50%
beetles	bugs	bugs	
birds			
bugs			
chickens			
grasshoppers			
insects			
parrots			
potato bug			
(Other than winged) (31%)	(Other than winged) (67%)		(Other than winged) (50%)
animals	beast		crab
caterpillars	lambs		
crabs	octopus		
crayfish	pigs		

CARD X-D 4—Continued

octopus			
snails			
squirrels			
	.....	<i>Animal details</i>	.....
		17%	
		face of animal	
<i>Animal objects</i>	.....	.....	<i>Animal objects</i>
2%			50%
coral			cocoon
<i>Art</i>	.....	.....	.....
2%			
design			
<i>Human beings</i>	.....	.....	.....
4%			
men			
servants			
<i>Human details</i>	.....	<i>Human details</i>	.....
4%		17%	
faces		heads of figures	
heads of men			

	
	<i>Objects</i>	.....	.....
	17%		
	bells		
<i>Plants, etc.</i>	.....	.....	.....
6%			
flower			
potatoes			

D 5

D5 = 57 D5% = 7	D5 = 11 D5% = 8	D5 = 5 D5% = 5	D5 = 11 D5% = 8
.....	.....	<i>Anatomy (human)</i>	.....
		20%	
		pelvis	
<i>Animals</i>	<i>Animals</i>	<i>Animals</i>	<i>Animals</i>
68%	64%	20%	45%
(Winged)			(Winged)
(4%)			(9%)
bug			insect
insect			
(Other than winged)	(Other than winged)	(Other than winged)	(Other than winged)
(65%)	(64%)	(20%)	(36%)
alligators	caterpillars	mountain goat	eels
caterpillars	eels		snakes attacking
dragons	snakes		rabbit

CARD X-D 5—Continued

eels	worms		spider
goat			
jackal			
larvae			
lizards			
mice			
seahorses			
sheep			
slugs			
snakes			
worms			
<i>Animal details</i>	.....	<i>Animal details</i>	<i>Animal details</i>
5%		20%	9%
face of rabbit with an-		head of ram	head of animal
tennae of insect			
head of animal with			
whiskers			
head of insect			
<i>Animal objects</i>	.....	.....	<i>Animal objects</i>
2%			9%
wishbone			wishbone
<i>Architecture</i>	<i>Architecture</i>	<i>Architecture</i>	<i>Architecture</i>
9%	9%	20%	9%
archway	pagoda	gate	gateway
entrance			
Gothic architecture			
staircase			
staircase with			
banisters			
<i>Human beings</i>	.....	.....	<i>Human beings</i>
2%			9%
man			man with large legs
<i>Objects</i>	<i>Objects</i>	<i>Objects</i>	<i>Objects</i>
11%	27%	20%	18%
harp	centerpiece	horseshoe	dividers
horseshoe	horseshoe		nutcracker
lyre	pincers		
pincers			
ship			
<i>Plants, etc.</i>	.....	.....	.....
4%			
catkins			
sea anemone			

CARD X—Continued

D 6

D6 = 62 D6% = 8	D6 = 7 D6% = 5	D6 = 6 D6% = 6	D6 = 3 D6% = 2
<i>Anatomy (human)</i> 5% nerve ganglia tissue cells	.....	.....	.....
<i>Animals</i> 87% (Winged) (31%)	<i>Animals</i> 100% (Winged) (14%)	<i>Animals</i> 83% (Winged) (33%)	<i>Animals</i> 67% (Winged) (67%)
bat	bat	bats	bat
beetle		bugs	beetle
birds			
bugs			
dragon fly			
insects			
(Other than winged) (56%)	(Other than winged) (86%)	(Other than winged) (50%)	
caterpillar	seahorses	alligator	
dragon	sea lions	deer	
frog		field mouse	
moose			
mouse			
octopus			
parasite			
reindeer			
seahorses			
<i>Animal objects</i> 2%			
cocoons			
<i>Human beings</i> 2%	.....	.....	.....
spies			
<i>Maps, etc.</i> 2%	.....	.....	.....
slide			
.....	.....	.....	<i>Natural objects</i> 33%
<i>Plants, etc.</i> 3%	.....	<i>Plants, etc.</i> 17%	islands
flowers		plant	

CARD X—Continued

D 7

D7 = 9 D7 % = 1	D7 = 1 D7 % = 7	D7 = 1 D7 % = 1	.....
<i>Animal details</i> 89 % face of jackass head of grasshopper head of rabbit	<i>Animal details</i> 100 % head of deer	<i>Animal details</i> 100 % head of antelope	
<i>Objects</i> 11 % Indian feather	.....	.....

D 8

D8 = 18 D8 % = 2	D8 = 6 D8 % = 4	D8 = 1 D8 % = 1	D8 = 6 D8 % = 5
.....	<i>Anatomy (embryo.)</i> 17 % germ plasm	.....	.....
<i>Anatomy (human)</i> 61 % bone cornea of eye ganglia pelvic bones vertebra	<i>Anatomy (human)</i> 33 % pelvic bone pelvis	<i>Anatomy (human)</i> 100 % chest bone	<i>Anatomy (human)</i> 33 % pelvic bones skeleton
<i>Animals</i> 28 % (<i>Winged</i>) (17 %) birds insects swallows (<i>Other than winged</i>) (11 %) clam oyster	.....	.....	<i>Animals</i> 17 % (<i>Winged</i>) (17 %) butterfly
.....	<i>Animal details</i> 17 % eyes of owl	.....	.....
<i>Architecture</i> 6 % dam	<i>Architecture</i> 17 % bridge	.....	<i>Architecture</i> 17 % dam <i>Natural objects</i> 17 % cliffs

CARD X-D 8—Continued

.....	<i>Objects</i> 17%		
	swing		
<i>Plants, etc.</i> 6%	.....	.....	<i>Plants, etc.</i> 17%
sea anemone			flower

D 9

D9 = 62 D9% = 8	D9 = 13 D9% = 9	D9 = 5 D9% = 5	D9 = 9 D9% = 7
<i>Anatomy (embryo.)</i> 5%	.....	.....	.....
embryo			
<i>Anatomy (human)</i> 8%	.....	<i>Anatomy (human)</i> 20%	<i>Anatomy</i> 11%
blood		sternum	blood
blood smear			
lungs			
pelvic bone			
wound			
<i>Animals</i> 27%	<i>Animals</i> 15%	<i>Animals</i> 20%	<i>Animals</i> 22%
(<i>Winged</i>) (3%)			
insects			
(<i>Other than winged</i>) (24%)			
caterpillar	caterpillars	snail	caterpillars
dragon	worms		
eels			
fish			
lobsters			
seahorses			
silkworms			
snails			
<i>Animal objects</i> 8%			<i>Animal objects</i> 11%
coral			coral
<i>Fire, etc.</i> 2%	.....	.....	.....
fire			
<i>Human beings</i> 24%	<i>Human beings</i> 8%	<i>Human beings</i> 20%	<i>Human beings</i> 22%
characters from "Alice in Wonderland"	man	giants	dwarfs smoking people dancing
children			
Dopey			
dwarfs			

CARD X-D 9—Continued

ghosts goblins mermaid people snake charmer twins				
<i>Maps, etc.</i> 3%	<i>Maps, etc.</i> 46%	.....	.....
map map of California	map of California map of Italy relief map			
<i>Natural objects</i> 13%	<i>Natural objects</i> 31%	<i>Natural objects</i> 20%	<i>Natural objects</i> 22%	
cliff clouds coastline land rock	mountain setting sun smoke	coast line of California	coast of California desert	
<i>Objects</i> 8%	.....	<i>Objects</i> 20%	<i>Objects</i> 11%	
brick gargoyle ink molten metal slip		bird house	Christmas stocking	
<i>Plants, etc.</i> 2%	.....	.....	.....
flower				

D 10

D10 = 26 D10% = 3	D10 = 2 D10% = 1	D10 = 5 D10% = 5	D10 = 2 D10% = 2
<i>Anatomy (human)</i> 46%	.....	.....	.....
cells cell tissue cornea lymphocytes motor neurone ovary			
<i>Animals</i> 35%	<i>Animals</i> 50%	<i>Animals</i> 100%	.....
(<i>Winged</i>) (8%)			
birds insects			
(<i>Other than winged</i>) (27%)			
amoeba	amoeba	dogs	
dogs lions poodles seahorses			

CARD X-D 10—Continued

<i>Human beings</i> 4%	.....	.....	.....
fairy			
<i>Maps, etc.</i> 4%	.....	.....	.....
slide			
.....	<i>Natural objects</i> 50%	.....	<i>Natural objects</i> 50%
	fields of wheat		sun spots
<i>Objects</i> 8%	.....	.....	.....
fried eggs			
<i>Plants, etc.</i> 4%	.....	.....	<i>Plants, etc.</i> 50%
sea anemone			butter and egg flower

D 11

D11 = 12 D11% = 2	D11 = 5 D11% = 4	D11 = 3 D11% = 3	D11 = 3 D11% = 2
<i>Anatomy</i> 8%	.....	.....	<i>Anatomy</i> 33%
blood smear			bones
<i>Animals</i> 17%	.....	.....	<i>Animals</i> 67%
amoeba			chipmonk
snail			larva
<i>Animal details</i> 17%	.....	.....	.....
head of dog			
<i>Human details</i> 17%			
head of Cupid			
head of Indian			
<i>Maps, etc.</i> 17%	<i>Maps, etc.</i> 20%	.....	.....
map of Guam	map of		
map of New Jersey	Madagascar		
<i>Natural objects</i> 17%	<i>Natural objects</i> 60%	<i>Natural objects</i> 33%	.....
clouds	clouds	islands	
Isle of man	island lake		
<i>Objects</i> 8%	.....	.....
eggs (food)			

CARD X-D 11—Continued

.....	<i>Plants, etc.</i> 20% peanut	<i>Plants, etc.</i> 67% carrots flowers
-------	--------------------------------------	--	-------

D 12

D12 = 24 D12% = 3	D12 = 8 D12% = 6	D12 = 5 D12% = 5	D12 = 6 D12% = 5
<i>Anatomy (human)</i> 8% glandular structure vertebra	<i>Anatomy (human)</i> 13% skeleton	.....	.....
<i>Animal details</i> 4% ears of Mickey Mouse	.....	.....	.....
<i>Animal objects</i> 21% wishbone	<i>Animal objects</i> 38% wishbone	<i>Animal objects</i> 60% wishbone	.....
<i>Maps, etc.</i> 4% slide	.....	.....	.....
<i>Objects</i> 42% balls governor gyroscope pawnshop symbol pendulum prize	<i>Objects</i> 38% governor tractor wheels of airplane	<i>Objects</i> 20% pawnshop balls	<i>Objects</i> 100% eggs, fried floating things. gold balls governor
<i>Plants, etc.</i> 17% cherries maple seed oak seed seed	<i>Plants, etc.</i> 13% cherries	<i>Plants, etc.</i> 20% seed pods	.....
<i>Sex</i> 4% genitals	.....	.....	.....

D 13

D13 = 8 D13% = 1	D13 = 3 D13% = 2	D13 = 2 D13% = 2	D13 = 1 D13% = .7
<i>Animals</i> 63% (Other than winged) (63%) anthropoid cow crayfish	<i>Animals</i> 33% (Winged) (33%) birds	<i>Animals</i> 50% (Winged) (50%) grasshopper	<i>Animals</i> 100% (Other than winged) (100%) brown animals

CARD X-D 13—Continued

<i>Animal details</i> 25%	<i>Animal details</i> 33%	.....	.....
claws	claws of crab		
<i>Human beings</i> 13%	.....	.....	.....
figures			
.....	<i>Objects</i> 33%	.....	.....
	cleaning brush		

D 14

D14 = 12 D14% = 2	D14 = 1 D14% = .7	.....	D14 = 1 D14% = .7
<i>Anatomy (animal)</i> 8%	.....		.....
brain of frog			
<i>Anatomy (human)</i> 33%	.....		.....
blood vessel			
spinal cord			
trachea			
<i>Architecture</i> 8%	.....		.....
tower			
<i>Objects</i> 42%	<i>Objects</i> 100%		<i>Objects</i> 100%
chimney	electric fuse		bayonet
smoke stack			
Statue of Liberty			
stove pipe			
valve			
<i>X-ray</i> 8%			
x-ray of stalk of sea plant			

D 15

D15 = 17 D15% = 2	D15 = 1 D15% = .7	D15 = 3 D15% = 3	D15 = 5 D15% = 4
<i>Anatomy (human)</i> 24%	.....	.....	.....
nerve cell			
stomach			
<i>Animals</i> 18% (Winged) (6%)	.....	.....	<i>Animals</i> 60% (Winged) (40%)
swan			birds robins

CARD X-D 15—Continued

(Other than winged) (12%)	(Other than winged) (20%)
animal fish	snails
<i>Animal objects</i> 6%	
coral	
<i>Natural objects</i> 100%	
islands	
<i>Natural objects</i> 6%	
island	
<i>Objects</i> 6%	
egg yolk	
<i>Plants, etc.</i> 41%	
cotton ball flowers	
	<i>Objects</i> 33%
	egg yolk
	<i>Plants, etc.</i> 67%
	flowers
	<i>Objects</i> 20%
	egg
	<i>Plants, etc.</i> 20%
	buttercup

D 16

D16=9 D16%=1	D16=1 D16%=.7	D16=3 D16%=3	D16=4 D16%=3
.....	.....	.....	<i>Animals</i> 25%
			fish
.....	<i>Architecture</i> 100%	.....	.....
	tower		
<i>Human beings</i> 100%	.....	<i>Human beings</i> 100%	<i>Human beings</i> 75%
bobby divers ghosts glass blowers ladies men people person policemen		men	king and queen men spirits

D17=2
D17%=.2

D 17

<i>Animal details</i> 50%	
horns of goat	
<i>Human beings</i> 50%	
fencers	

CARD X—Continued

D 18

D18=53 D18%=7	D18=20 D18%=14	.....	D18=6 D18%=5
<i>Animals</i> 96% (Winged) (4%) birds insects (Other than winged) (92%) crabs (66%) crayfish lobster prehistoric animal scorpion spider <i>Human beings</i> 4% knights on dragon wild person with tree branch 	<i>Animals</i> 85% (Winged) (5%) insects (Other than winged) (80%) crab crayfish microbe octopus seahorse spider <i>Human beings</i> 10% Hindu god imps <i>Natural objects</i> 5% lake		<i>Animals</i> 80% (Other than winged) (80%) lobsters spiders <i>Human beings</i> 20% people
D3+D9=2 D3+D9%=.2	.....	D 3 + D 9	D3+D9=2 D3+D9%=2
..... <i>Animals</i> 50% octopus 			<i>Anatomy (animal)</i> 50% skeleton of animal <i>Animal details</i> 50% antlers
<i>Human beings</i> 50% Chinese god			
D5+D10=1 D5+D10%=.1		D 5 + D 10	
<i>Plants, etc.</i> 100% cross-section of tulip	.....	.....	.....

CARD X—Continued

D 6 + D 8

.....	.....	D6 + D8 = 1 D6 + D8 % = .7
		<i>Human beings</i> 100 % people fighting

D 6 + D 15

D6 + D15 = 2 D6 + D15 % = .2	D6 + D15 = 3 D6 + D15 % = 2
<i>Animals</i> 50 % (<i>Winged</i>) (50 %)			<i>Animals</i> 100 % (<i>Winged</i>) (33 %)
birds			moth (<i>Other than winged</i>) (67 %)
			seahorses
<i>Plants, etc.</i> 50 %			
flowers			

D 8 + D 16

D8 + D16 = 2 D8 + D16 % = .2
<i>Human beings</i> 100 % figures holding bottles men			

D 6 + D 11 + D 15

D6 + D11 + D15 = 3 D6 + D11 + D15 % = .3
<i>Animals</i> 33 % (<i>Winged</i>) (33 %)			
birds			
<i>Human beings</i> 33 %			
servants			
<i>Plants, etc.</i> 33 %			
blooms			

CARD X—Continued

D 6 + D 11 + D 15 + D 18

D6 + D11 + D15 + D18 = 1 D6 + D11 + D15 + D18% = .1 .....	.....
<i>Animals</i> 100% collection of sea- horses	

D 3 + S

..... D3 + S = 1 D3 + S% = .7 .....	.....
<i>Architecture</i> 100% entrance to canal and water	

D 5 + S

..... D5 + S = 2 D5 + S% = 1 .....	.....
<i>Objects</i> 100% bottle window	

D 8 + S

D8 + S = 1 D8 + S% = .1 .....	.....
<i>Architecture</i> 100% bridge over chasm	

D 3 + D 8 + S

D3 + D8 + S = 1 D3 + D8 + S% = .1 .....	.....
<i>Architecture</i> 100% gates and road	

CARD X—Continued

dd			
dd = 1 dd% = .1	.....	.....	.....
<i>Architecture</i> 100% factory with chimney			
de			
de = 1 de% = .1	de = 2 de% = 1	.....	.....
<i>Human details</i> 100% profile of boy	<i>Human details</i> 50% face of pygmy		
.....	<i>Natural objects</i> 50% coastline		
di			
di = 1 di% = .1	.....	.....	.....
<i>Anatomy</i> 100% blood smear			
dr = 14 dr% = 2	dr = 1 dr% = .7	dr = 2 dr% = 2	dr = 1 dr% = .7
<i>Anatomy (human)</i> 21% ligament lungs and trachea	.....	.....	.....
<i>Animals</i> 14% (Winged) (7%) fly (Other than winged) (7%) dog	.....	.....	<i>Animals</i> 100% (Other than winged) (100%) octopus
.....	<i>Animal details</i> 100% head of animal		
<i>Architecture</i> 7% Eiffel Tower	.....	.....	.....

CARD X-di—Continued

<i>Human being</i> 7%	.....	<i>Human beings</i> 50%	.....
person		dwarfs	
<i>Human details</i> 21%	.....	<i>Human details</i> 50%	.....
face		face	
face and hat			
<i>Maps, etc.</i> 7%	.....	.....	.....
map			
<i>Objects</i> 14%	.....	.....	.....
gauge			
microscope			
<i>X-ray</i> 7%	.....	.....	.....
x-ray of spinal cord			

dr + S

dr + S = 7 dr + S% = .8	dr + S = 3 dr + S% = 2	.....	dr + S = 2 dr + S% = 2
.....	.....	.....	<i>Anatomy (human)</i> 50%
			vertebra
.....	.....	.....	<i>Animals</i> 50%
			drunken hippo
.....	<i>Architecture</i> 33%	.....	.....
	bridge and channel		
<i>Human details</i> 43%	<i>Human details</i> 33%	.....	.....
face	face		
face with helmet			
<i>Natural objects</i> 43%	.....	.....	.....
canal and barges			
ravine and bank			
<i>Objects</i> 14%	<i>Objects</i> 33%	.....	.....
moorhead and shaft	front end of submarine		

CARD X—Continued

S			
S = 10 S% = 2	S = 1 S% = .7	S = 1 S% = 1	S = 3 S% = 2
<i>Animals</i> 20%	.....	<i>Animals</i> 100%	.....
dog		dog	
teddy bear			
.....	.....	.....	<i>Animal details</i> 33%
			face of terrier
.....	<i>Architecture</i> 100%	.....	.....
	church		
<i>Human beings</i> 20%			.....
man			
oriental deity			
<i>Natural objects</i> 20%	<i>Natural objects</i> 33%
crevice			water
pit			
<i>Objects</i> 40%			<i>Objects</i> 33%
idol			violin
pipe			
wrench			

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This Book

• *Large Scale*

RORSCHACH TECHNIQUES

A Manual for the Group Rorschach
and
Multiple Choice Test

By M. R. HARROWER-ERICKSON, Acad. Dip., Ph.D.

and

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